# PRINTING EQUIPMENT ENGINEER

JUNE ▾ 1933

A Technical Publication for Mechanical Executives Responsible for Printing Production, Equipment and Supplies

# ANNOUNCING

## THE GOSS HIGH SPEED ANTI-FRICTION PRESS

. . . . . Establishing

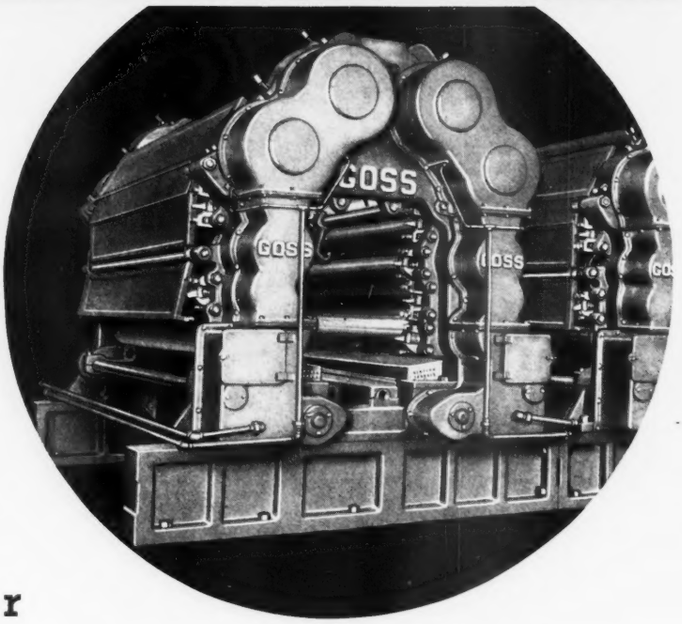
New Standards in

Design . . . Speed of

50,000 to 60,000 . . .

Pressure Lubricated . . .

Smoother . . . Safer




**ANTI-FRICTION** ● Ball and roller bearing throughout this Unit result in greater smoothness and power economy. Cylinders are mounted in preloaded Timken roller bearings. This method of mounting under a predetermined load removes all play and eliminates cylinder jumps.

**IMPROVED ECCENTRIC IMPRESSION ADJUSTMENT** ● After adjustment, impression cylinders lock down into frame on their load side . . . eliminating cylinder jumps from this source.

**MOVING PARTS COVERED** ● All gears, the entire vibrator and feed mechanism — in short, all moving parts of the Goss High Speed Anti-Friction Unit — are completely enclosed, *making it the safest of all units in operation.*

**AUTOMATIC PRESSURE OILING** ● Oil is forced under pump pressure to all bearings and moving parts, except the grease-lubricated cylinder and roller stocks, which require only occasional attention.

**OTHER FEATURES** ● Include improved sockets for roller stocks, locking to frame at two points . . . complete accessibility of all parts and adjustments . . . extensive use of alloy steels . . . new precision methods. Standard Goss features are, of course, retained — perfect dynamic balance in rotating parts . . . use throughout of spiral and helical gears . . . an improved Goss patented quick plate lock-up . . . an improved end adjustment of ink fountains . . . and the intermediate gear drive into one plate and one impression cylinder.

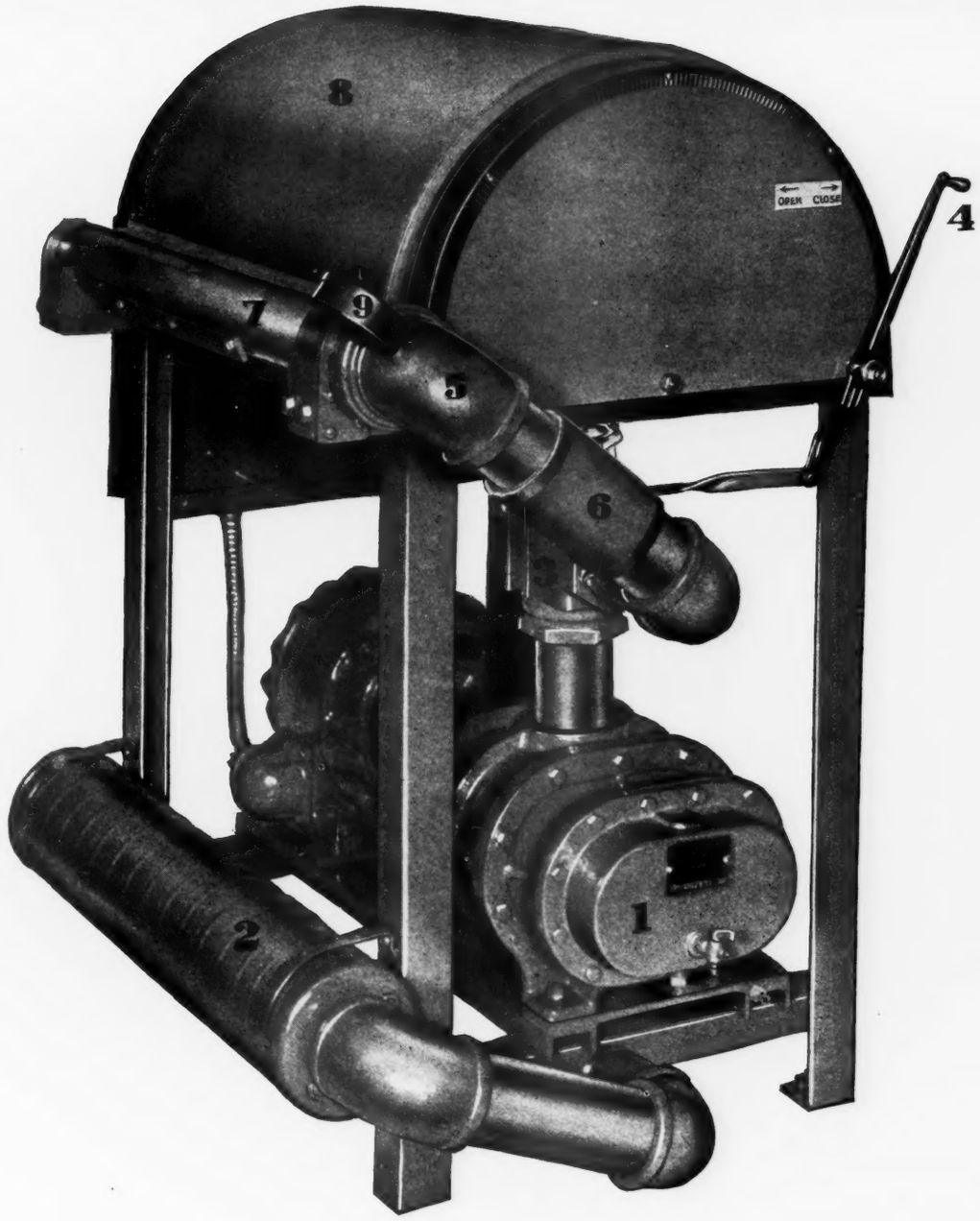
GOSS

STRAIGHT LINE

GOSS HIGH SPEED

THE GOSS PRINTING PRESS COMPANY
CHICAGO, ILLINOIS

NEW YORK OFFICE: 220 EAST FORTY-SECOND STREET
SAN FRANCISCO OFFICE: 707 CALL BUILDING • THE GOSS PRINTING PRESS COMPANY OF ENGLAND, LTD., LONDON




## THE NEW STAHI JUNIOR FORMER

Is an efficient means of securing maximum shrinkage on dry mats with Uniform Casting Levels. For those Publishers who desire to reduce the width of newsprint as an economic means of reducing production costs, the STAHI JUNIOR FORMER is the one outstanding machine that guarantees satisfactory results with over-moist dry mats.

## STAHI NEWSPAPER SUPPLY COMPANY, Inc.

Portland, Oregon — Seattle, Washington — Los Angeles, California

AGENCIES

GOSS PRINTING PRESS COMPANY, General Agents
Chicago, New York, San Francisco
GOSS PRINTING PRESS COMPANY, LTD.
London, England

TORONTO TYPE FOUNDRY CO., LTD.
Toronto, Montreal, Winnipeg
NATIONAL PAPER & TYPE CO.
New York, South American Agents

# "He's delighted

## with Vulcan Press Blankets. Promises more business if they hold up."

*They did hold up (they always do) and another order for this customer was filled recently.*

## OTHER TYPICAL FIELD REPORTS ON VULCAN PRESS BLANKETS:

*Names, dates, etc., on request.*

"Vulcan Blankets bought last September doing fine on worst cylinder on press. Will get more as soon as he can get order through."

*The repeat order referred to above has been received.*

"Says Vulcan Blankets best he ever bought. Have already lasted longer than _____. Vulcan Rubber Rollers also O.K. We will get more stocks as soon as _____ wear out."

*And we got them!*

"Has bad cylinder on account of plate breaking. _____ blankets started to go in about six months. Vulcans now on that cylinder eight months and no sign of wear. Will see _____ of _____ and tell him about Vulcan Blankets.

*One pressman tells another.*

"_____ say he wouldn't know he had blankets on the press. Vulcans have caused him no trouble whatever. He had to replace some of _____."

"Vulcan blankets arrived and were put on press at once. Started up without any trouble whatever. Especially pleased with the way they print halftones and solids."

"Vulcan Blankets doing fine job. Very well satisfied with their printing. Particularly pleased with clean appearance of paper today, run immediately after taking off 300,000 broadsides from same unit. First job carried plenty of ruling."

"Well satisfied with Vulcan Rubber Rollers. Likes them better than _____. Will order more Vulcan Blankets when ready. Now on all units but one."

"Vulcan Blankets doing fine job and _____ delighted. Says 'Best ever used.' Blankets have been given very hard service with bad stereotypes, and have lasted longer than any others."

"Vulcan Blankets doing a very satisfactory job. _____ says this to all interested visitors."

"Well pleased with Vulcan Blankets. Sending under separate cover copy of _____ showing two-color advertisement printed with Vulcan Blankets."

"Enter order for blankets as per letter herewith. Vulcan Blankets very satisfactory and everybody happy."

"We installed your blankets on the night of March 3rd. On March 4th our paper was entered in the N. W. Ayer contest, in which we came out second in our class."

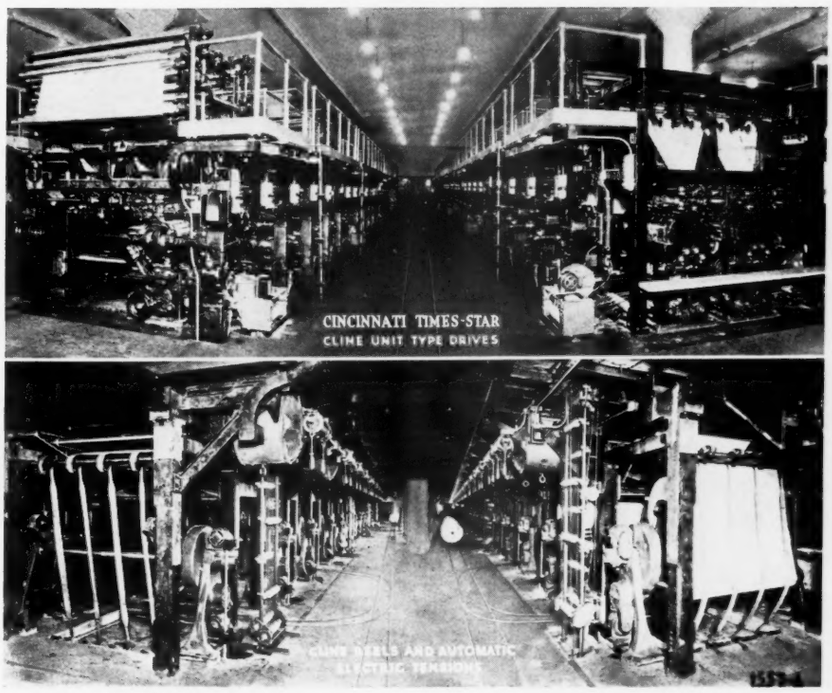
## VULCAN PROOFING COMPANY

First Avenue and 58th Street - - Brooklyn, N. Y.

# VULCAN

## *Press Blankets and Rubber Rollers*

# *A Noteworthy Example*




# CLINE CORRELATED EQUIPMENT

## IN THE CINCINNATI TIMES-STAR PLANT

The photograph above, from the pressroom of the new Cincinnati Times-Star plant, illustrates the installation of the Cline Unit Type Press Drives and Control, Cline Reels and Automatic Electric Tensions in connection with the 28 press units and 7 folders installed.

The Cline Electric Mfg. Co. engineered and correlated the apparatus in this entire plant, relieving the publisher of details and providing a plant for efficient and rapid production of the newspaper.

In addition, the Cline Electric Mfg. Co. furnished for this plant:

**Flush type Plate Conveyor System.**

**Tracks, Dollies and switching equipment** for handling the rolls of paper in the reel-room.

**Automatic Paper Elevators** for delivering the rolls to the required floors.

**Automatic One-Man Electric Elevators** and Slide Poles for operators between pressroom and reelroom.

**Complete paper handling equipment** with Automatic Tiering Machines for the paper storage.

**Combined Bundling Tables** and Conveyors in the mailing room.

**All motors and control equipment** for stereotype and composing department.

# CLINE ELECTRIC MFG. CO.

MAIN OFFICE: Conway Building, 111 W. Washington St., CHICAGO, ILL.

EASTERN OFFICE
The News Building
220 East 42nd Street, New York City

CLINE ELECTRIC MFG. CO. CHICAGO — CLINE SYSTEM

WESTERN OFFICE
First National Bank Building
San Francisco, California

# WHY melt metal twice to use it once?

# MONOMELT EQUIPMENT

***may now be purchased through***
## INTERTYPE CORPORATION

MONOMELT
**Single Melting System for**
INTERTYPE
LINOTYPE
MONOTYPE
LUDLOW
ELROD

•

**AUTOMATIC ROLL CHANGE**
New speed in roll changing. Installed without remodeling. Fits all web presses.

•

**NEWSPRINT ROLL TRUCKS**
Rolls any size moved, tipped, hauled. A one-man truck.

•

**KEY-LOCK PAPER ROLL SPINDLE CHUCK**
Locks roll tight — no slipping. Roll runs true and close to core.

•

**MONOMELT DOLLIE**
An easy-moving flat truck for hauling paper and stereotype plates.

WE are pleased to announce the completion of arrangements whereby all items of Monomelt composing room equipment will be sold, installed and serviced by the Intertype Corporation through its branch offices and national sales force. This representation is in addition to that of the staff of the Monomelt Company itself. Newspaper publishers, printers and compositors in all parts of the country may now secure full information on any Monomelt equipment through personal interviews with either Monomelt or Intertype representatives. Purchases may be completed through either the Monomelt Company or the Intertype Corporation. This new connection, we feel, greatly expands our facilities for serving the printing and publishing industry. For your convenience we call attention to Intertype offices located in Brooklyn, N. Y.; Chicago, Ill.; New Orleans, La.; San Francisco, Cal.; Los Angeles, Cal.; and Boston, Mass.

# MONOMELT

**1611 Polk Street, Minneapolis THE MONOMELT COMPANY 10 E. 40th Street, New York City**

# NEWSPAPER PRESSMEN

are finding out that CLOTH COVERED, NON-MELTABLE COMPOSITION, DISTRIBUTOR and FEED rollers last longer than RUBBER rollers; do not have to be RE-GROUND; do not THROW ink; DISTRIBUTE and CARRY ink better; and their FIRST COST is less than HALF of that of RUBBER rollers.

We have made CLOTH COVERED rollers since 1908, and in addition, we make all kinds of PRINTERS' ROLLERS.

**FIFTEEN FACTORIES**

CHICAGO
636-720 SHERMAN ST.

CLEVELAND
1432 HAMILTON AVENUE

ATLANTA
274-6 TRINITY AVE., S. W.

DALLAS
1310 PATTERSON AVE.

DES MOINES
1025 WEST FIFTH STREET

DETROIT
4391 APPLE STREET

INDIANAPOLIS
629 SO. ALABAMA ST.

KALAMAZOO
223 W. RANSOM STREET

KANSAS CITY
706-708 BALTIMORE AVE.

MINNEAPOLIS
721-723 FOURTH STREET

NASHVILLE
911 BERRYHILL STREET

PITTSBURGH
88-90 SOUTH 13th STREET

ST. LOUIS
514-516 CLARK AVENUE

SPRINGFIELD, OHIO
OR. EAST AND HARRISON ST.

CINCINNATI
1915 RACE ST

*Offset (Litho-Print) Rollers,*
*Cloth Covered Rollers,*
*Rubber Rollers,*
*All Rollers.*

FOR EIGHTY-TWO YEARS
BINGHAM'S RELIABLE
PRINTERS' ROLLERS

**SAM'L BINGHAM'S SON MFG. CO.**

MANUFACTURERS OF

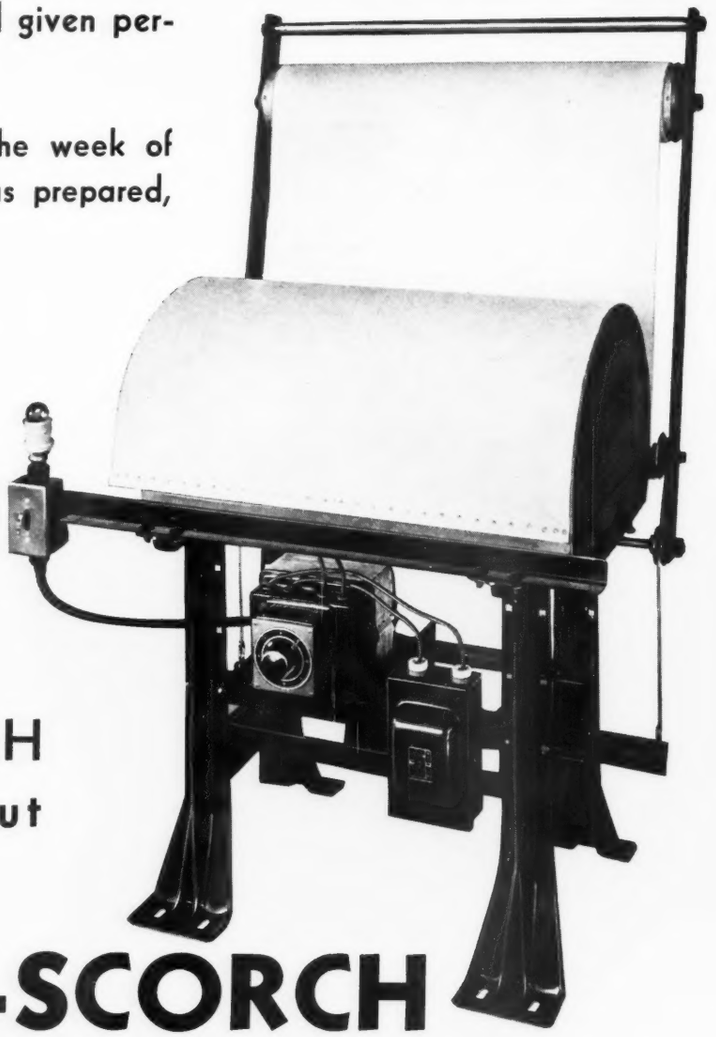
PRINTERS' ROLLERS

# IT IS A SIGNIFICANT FACT—

**that when in 1932 the new Form-O-Scorch machine was placed on the market, The Christian Science Monitor, Boston, immediately installed a unit which has been in operation continuously and given perfect satisfaction ever since.**

**It is further significant that during the week of May 21, when this advertisement was prepared, 7 Form-O-Scorch machines were sold to:**

Everybody's Daily - - Buffalo, N. Y.
Cepak Printing Co. - - - Chicago, Ill.
Pittston Gazette - - - - Pittston, Pa.
Star Eagle - - - - - Newark, N. J.
Tribune - - - Cheyenne, Wyoming
Movie News - - - - - Chicago, Ill.
North Shore Journal - - Flushing, N. Y.



## The FORM-O-SCORCH "Gets Your Paper Out ON TIME"

# The FORM-O-SCORCH

**Takes the crude plastic matrix — forms and scorches it into semi-cylindrical shape to provide perfect printing surfaces.**

In addition to the above list of new installations nearly a hundred satisfied users of this new machine acclaim its outstanding superiority, and each month adds more prominent publishers to the list.

For efficiency in the production of perfect mats, speed of operation, and moderate initial cost, the Form-O-Scorch has no equal.

It Forms and Scorches in one operation, eliminates buckling, warping, remolds and recasts, saves time and labor, costs little to operate and speeds production.

If you want perfect mats at least possible cost, now is the time to look into the question of Mat production in your plant and send for more complete details on the Form-O-Scorch.

**Manufactured Only by**

## AMERICAN PUBLISHERS SUPPLY, West Lynn, Mass.

SOLD EXCLUSIVELY BY AUTHORIZED SALES AGENTS:

Burgess Cellulose Company, Freeport, Illinois.
Reed Roller & Supply Co., Inc., Seattle, Washington.
Mid-West Publishers Supply Co., 120 No. La Salle St., Chicago, Ill.
Wood Flong Corporation, Hoosick Falls, N. Y.
Certfied Dry Mat Corporation, New York City.
George Russell Reed, Jr., San Francisco, Cal.

# Publishers Supplies of Outstanding Quality

**Many of the products listed below are well known and extensively used throughout the trade as the finest obtainable, having been improved and perfected to maximum efficiency to meet the demands of the industry in general. Present prices are most reasonable.**

NOW IS THE TIME TO STOCK UP TO MEET FUTURE REQUIREMENTS

## Gummed and Prepared Packing Felts

In Sheets and Cut Strips

| SUPERIOR | FUZON | ECONOMY |
|---|---|---|
| 18 x 28 inches | 16 x 18 inches | 9 x 14 inches |

## Stereotype Room Supplies

Scorchers of every description
Packing Felts
  Gummed, Prepared, Plain
Cut Mounting Tissue
Nails and Tacks
Electrotyper's Rubbers
Wool Molders
Red Dryers
Phototone Creepers
Creeper Felts
Molding Boards
Matrix Shears
"Smatco" Mat Rolling Machine
Mallets
  Rubber, Rawhide, Hickory
Stereotype Tissue and Blotter
Cork Molders
Flat Shaver Boards
Tail Boards, flat or curved
Chisels
Jig Saws
Planer Blocks
Stereotype Chemicals
Routers and Bits
Brushes, all kinds
Gummed Sealing Tape
Blue Dryers
Packing Felt Moisteners
Paste, all kinds, liquid, dry
Remoistening Gum

## Scorcher Supplies

Asbestos Cloth Covers
  Plain, Wire Woven
  Asbestos Paper
  Asbestos Thread
Heating Units, all kinds
Switches, all kinds
Wire, Heat Resisting
Timers, Scorchrite

## Auto Plate Accessories

Steel Pouring Sheets
  Junior Auto Plate, Automatic
  Autoplate, Tubular
Breaking Pins
Renew Pins
Belts, Shaver, Autoplate

## Composing Room Supplies

Keyboard Rollers
  Plain, Corrugated
Knives Resharpened
Sennet Positive Assembler
Cam Wires
Steel Work Benches, all sizes
Marvel Dust Blowers
Belting, all kinds for
  Router, Distributor, Assembler
  Mat Delivery, Pi-stacker
  Keyboard
  Round, Miehle and Clippered
Belt Hooks
Endless Belts, all lengths and widths

## Press Room Supplies

Press Blankets
Draw Sheets
Bumping Pads
Blanket Punches
Press Tape
Ink Pumps
Cutting Rubbers
Paste

## Cork Molding Blankets

| SUPERIOR | METROPOLITAN | STANDARD |
|---|---|---|
| HARD | MEDIUM | SOFT |

DESCRIPTIVE CATALOG AND PRICES ON REQUEST

**AMERICAN PUBLISHERS SUPPLY**
**WEST LYNN, MASSACHUSETTS**

# NEWSPAPER PRINTING wherever GOODRICH

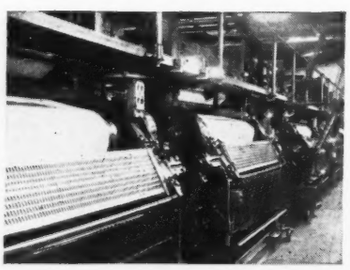
THE acid test of printing equipment is successful experience by leading newspapers the world over. Goodrich Printers' Rollers continue to pass this test from year to year with colors flying and new names of distinguished users added to the roll. • Unaffected by varying conditions of climate—designed and built to give the longest life—capable of being reground after years of service—these excellent rollers insure newspaper printing at its finest—printing that is clear and sharp throughout the run; clean half-tones; wash-ups eliminated; production speeded and improved—and all at an absolute saving of time and money. • Here is the latest Roll Call by states of Leading Newspapers that endorse Goodrich Printers' Rollers by using them:

**ALABAMA**
Birmingham Post
Birmingham News & Age-Herald

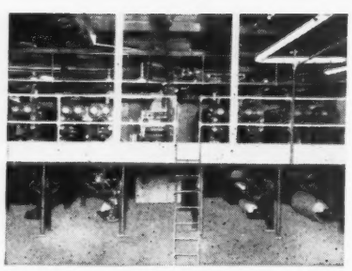
**ARIZONA**
Arizona Republican, Phoenix

**ARKANSAS**
Arkansas Democrat, Little Rock
Blytheville Courier News

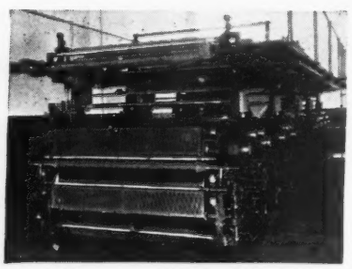
**CALIFORNIA**
Alameda Times-Star
Compton News-Tribune
Fresno Bee
Glendale News-Press
Hollywood News
Long Beach Sun
Los Angeles Herald Express
Los Angeles Times-Mirror
Los Angeles Examiner
Los Angeles Record
Oakland Tribune
San Bernardino Sun
San Diego Union Tribune
San Francisco Chronicle
San Francisco Examiner
San Francisco News
San Francisco Call-Bulletin
San Jose News



*Boston (Mass.) Herald & Traveler—Scott Extra High-Speed Presses using Goodrich Printers' Rollers.*



*Chester (Pa.) Times—Duplex Super-Duty Press. Equipped 100% with Goodrich Printers' Rollers.*



*Charleston (W. Va.) Gazette—Goss Unit-Type Octuple. Equipped 100% with Goodrich Printers' Rollers.*

**COLORADO**
Denver Post
Rocky Mountain News (Denver)

**CONNECTICUT**
Bridgeport Times-Star
Bristol Press
Hartford Courant
Hartford Times
New Britain Herald
New Haven Register
New London Day
Stamford Advocate
Torrington Register
Waterbury Republican & American

**DELAWARE**
Wilmington Morning News
Wilmington Journal & Every Evening

**WASHINGTON, D. C.**
Labor, Washington, D. C.
Washington Daily News
Washington Times and Herald
Washington Post
Washington Star
United States Daily

**FLORIDA**
Daytona Beach News-Journal
Daytona Beach Sun-Record
Gainesville Sun
Florida Times-Union, Jacksonville
Jacksonville Journal
Miami Herald
Miami News
Orlando Reporter Star & Sentinel
Pensacola News & Journal
Tampa Tribune
Palm Beach Post (West Palm Beach)
St. Augustine Record
St. Petersburg Times

**GEORGIA**
Atlanta Constitution
Georgian-American (Atlanta)
Atlanta Journal
Columbus Ledger
Macon Telegraph-News
Savannah News
Savannah Press

**ILLINOIS**
Aurora Beacon-News
Bloomington Pantagraph
Centralia Sentinel
Champaign News-Gazette
Chicago Daily News
Chicago Herald & Examiner
Chicago Tribune
Danville Commercial-News
Decatur Herald & Review
Dixon Telegraph
Elgin Courier-News
Galesburg Register Mail
Illinois State Journal, Springfield
Kankakee Republican-News
Kewanee Star-Courier
Moline Dispatch
Peoria Journal
Peoria Star
Rockford Morning Star
Rockford Star & Register-Republic
Sterling Daily Gazette

**INDIANA**
Elkhart Truth
Evansville Press
Fort Wayne Journal-Gazette
Fort Wayne News-Sentinel
Frankfort Morning Times
Goshen News
Huntington Sunday Visitor
Indianapolis News
Indianapolis Star
Indianapolis Times
Marion Chronicle
Muncie Star
Richmond Palladium-Item
South Bend Tribune

**IOWA**
Cedar Rapids Gazette
Des Moines Register & Tribune
Clinton Herald
Davenport Times
Iowa City Press Citizen
Sioux City Tribune
Sioux City Journal
Waterloo Courier

**KANSAS**
Salina Journal
Wichita Beacon

**KENTUCKY**
Lexington Leader
Louisville Courier-Journal

**LOUISIANA**
Monroe News-Star
New Orleans Item-Tribune
New Orleans Times-Picayune

**MAINE**
Bangor News
Portland News
Portland Press Herald
Portland Express

**MARYLAND**
Baltimore Sun
Baltimore American & News
Hagerstown Herald-Mail
Frederick News & Post

**MASSACHUSETTS**
Boston Daily Record
Boston News Bureau
Boston Sunday Advertiser
Boston American
Christian Science Monitor
Boston Herald & Traveler
Boston Pilot
Boston Post
Boston Transcript
Brockton Enterprise
Fall River Herald-News
Greenfield Recorder
Haverhill Gazette
Holyoke Transcript & Telegram
Lawrence Eagle & Tribune
Lynn Item
New Bedford Standard & Mercury
North Adams Transcript
Pittsfield Eagle
Springfield Union
Springfield Republican and Daily News
Waltham News-Tribune
Worcester Post
Worcester Telegram & Gazette

**MICHIGAN**
Benton Harbor News-Palladium
Detroit Free Press
Detroit News
Detroit Polish Daily News
Detroit Times
Jackson Citizen Patriot
Monroe Evening News
Mt. Pleasant Times
Niles Daily Star
Saginaw Daily News
St. Joseph Herald-Press

**MINNESOTA**
Duluth Herald News-Tribune
Minneapolis Daily Star
Minneapolis Journal
Minneapolis Tribune
St. Cloud Daily Times
St. Paul Dispatch

**MISSISSIPPI**
Natchez Democrat

**MISSOURI**
Hannibal Courier-Post
Jefferson City Post-Tribune
Kansas City Journal-Post
Kansas City Star
Moberly Monitor-Index
Springfield News
Springfield Press
St. Louis Globe-Democrat
St. Louis Post-Dispatch
St. Louis Star-Times

**NEBRASKA**
Lincoln Star
Lincoln State Journal
Omaha Bee-News
Omaha World Herald

**NEW JERSEY**
Asbury Park Press
Atlantic City Press-Union
Camden Courier-Post
Elizabeth Journal
Jersey Observer (Hoboken)
Montclair Times
Newark Ledger
Newark News
Newark Star-Eagle
Paterson Morning Call
Paterson News
Trenton State Gazette
Trenton Times

**NEW YORK**
Adirondack Daily Enterprise (Saranac Lake)
Albany Times-Union

# Goodrich

# at its finest ROLLERS are used . . . .

Amsterdam Recorder & Democrat
Beacon News
Binghamton Sun
Binghamton Press
Brooklyn Eagle
Brooklyn Times
Buffalo Courier-Express
Buffalo News
Buffalo Times
Corning Leader
Elmira Star Gazette
Flushing Journal
Hornell Tribune-Times
Ithaca Journal-News
Jamestown Journal
Kingston Freeman
Lockport Union Sun & Journal
Malone Telegram
Middletown Times Herald
Mt. Vernon Argus
Newburgh News
Newburgh Beacon News
New Rochelle Standard Star
New York City—
American
Daily News
Herald-Tribune
Home News, Bronx
Jewish Daily Forward
Jewish Day
Journal
Journal of Commerce
Mirror
Post
Sun
Times
Wall Street Journal
World-Telegram
Long Island Daily Star
Long Island Press
Niagara Falls Gazette
North Tonawanda News
Olean Times-Herald
Oswego Palladium Times
Peekskill Union
Plattsburgh Republican
Poughkeepsie Star-Enterprise
Queens County News, Jamaica, L.I.
Rochester Democrat & Chronicle
Rochester Journal-American
Rochester Times-Union
Saratoga Springs Saratogian
Staten Island Advance
St. John's Victorian, Lackawanna
Schenectady Gazette
Syracuse Herald
Syracuse Journal and Sunday American
Syracuse Post-Standard
Troy Record
Utica Observer Dispatch
Utica Press
White Plains Reporter
Yonkers Herald Statesman

NORTH CAROLINA

Asheville Citizen
Charlotte Observer
Durham Herald-Sun
Greensboro News
Gastonia Gazette
Raleigh News & Observer
Raleigh Times
Rocky Mount Telegram
Wadesboro Messenger & Intelligencer
Winston-Salem Journal & Sentinel

NORTH DAKOTA

Fargo Forum

OHIO

Akron Beacon Journal
Akron Times-Press
Alliance Review
Athens Messenger
Bellefontaine Examiner
Canton Repository
Cincinnati Enquirer
Cincinnati Post
Cincinnati Times-Star
Cleveland News
Cleveland Plain Dealer
Cleveland Press
Columbus Citizen
Columbus Dispatch
Columbus Ohio State Journal
Coshocton Tribune & Times-Age
Dayton Daily News
Dayton Herald-Journal
Findlay Morning Republican
Lancaster Eagle
Lorain Journal
Massillon Independent
Mansfield Journal
Mansfield News
Martins Ferry Daily Times
McArthur Republican-Tribune
Newark Advocate
New Philadelphia Times
Salem News
Sandusky Register Star-Journal
Toledo Blade
Warren Tribune-Chronicle
Youngstown Telegram
Youngstown Vindicator

OKLAHOMA

Bartlesville Enterprise
Duncan Daily Banner
Muskogee Phoenix Times Democrat
Oklahoma City Oklahoman & Times
Tulsa Tribune
Tulsa World

OREGON

Portland Journal
Portland Oregonian

PENNSYLVANIA

Allentown Chronicle & News
Altoona Mirror
Altoona Tribune
Ashland News
Bloomsburg Morning Press
Bradford Era
Chester Times
Easton Daily Express
Harrisburg News-Patriot
Harrisburg Telegraph
Homestead Messenger
Indiana Gazette
Johnstown Democrat
Johnstown Tribune
Lancaster New Era
Lewistown Sentinel
Middletown Journal
Monongahela Republican
Norristown Herald
Oil City Derrick
Philadelphia Inquirer
Philadelphia News
Philadelphia Public Ledger
Philadelphia Record
Pittsburgh Post Gazette
Pittsburgh Press
Pittsburgh Sun-Telegraph
Pottstown News
Reading Times
Sayre Times
Scranton Republican
Scranton Scrantonian
Scranton Times
Shamokin Daily News
Tyrone Herald
Wilkes-Barre Times-Leader
Williamsport Grit
Williamsport Sun-Gazette
York Dispatch

RHODE ISLAND

Pawtucket Times
Providence-Journal & Bulletin
Providence News-Tribune
Woonsocket Call

SOUTH CAROLINA

Anderson Independent
Charleston News & Courier
Charleston Post
Columbia State
Greenville News-Piedmont
Spartanburg Herald-Journal

SOUTH DAKOTA

Sioux Falls Arugs-Leader

TENNESSEE

Chattanooga News
Chattanooga Times
Knoxville Journal
Knoxville News-Sentinel
Memphis Press Scimitar
Nashville Banner
Nashville Tennessean

TEXAS

Amarillo Globe-News
Dallas Dispatch
Dallas News & Journal
Dallas Times Herald
Houston Chronicle
Houston Post-Dispatch
Houston Press
San Antonio Express
Sherman Democrat
Waco News-Tribune Times-Herald

UTAH

Salt Lake City Tribune & Telegram

VERMONT

Burlington Free Press
Rutland Herald

VIRGINIA

Clifton Forge Review
Covington Virginian
Free Lance Star, Fredericksburg
Lynchburg News & Advance
Norfolk Ledger-Dispatch
Progress Index, Petersburg
Richmond News Leader
Richmond Times-Dispatch
Roanoke World-News and Times

WASHINGTON

Seattle Times
Seattle Post-Intelligencer
Seattle Star
Spokesman Review, Spokane
Tacoma Tribune

WEST VIRGINIA

Charleston Gazette
Clarksburg Exponent-Telegram
Huntington Herald Dispatch
Morgantown Dominion-News & Post
Parkersburg Sentinel

WISCONSIN

Capitol-Times (Madison)
Fon du lac Commonwealth Reporter
Green Bay Press-Gazette
Manitowoc Herald News
Milwaukee Journal
Milwaukee Sentinel News
Sheboygan Press
Stevens Point Journal
Superior Evening Telegram
Two Rivers Reporter
Wisconsin State Journal (Madison)

WYOMING

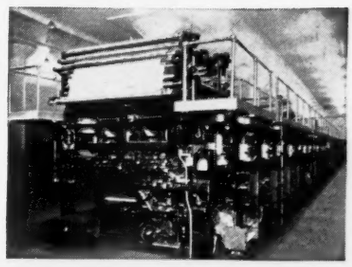
Cheyenne Tribune-Leader

CANADA

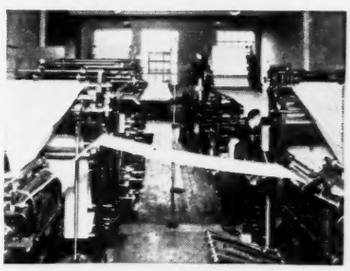
Border Cities Star (Windsor, Ontario)
Calgary Herald, Alberta
Edmonton Journal, Alberta
Halifax Herald, Nova Scotia
Hamilton Spectator, Ontario
Le Soleil, Quebec
London Free Press, Ontario
Montreal Star, Quebec
Ottawa Citizen, Ontario
St. John Telegraph Journal, New Brunswick
Toronto Globe, Ontario
Toronto Star, Ontario
Vancouver Province, British Columbia
Vancouver Sun, British Columbia

AUSTRALIA

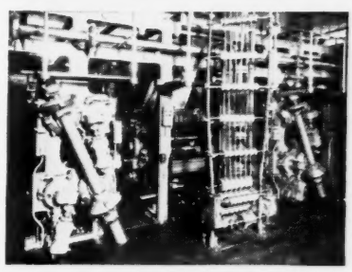
Melbourne Argus
Melbourne Herald & Weekly Times
Sydney Sun Newspapers



*Cincinnati (Ohio) Times-Star - Wood High - Speed Presses using Goodrich Printers' Rollers.*



*Sheboygan (Wisc.) Press—Duplex Tubular Presses in Tandem using Goodrich Printers' Rollers.*



*Cleveland (Ohio) Press—Hoe Super-Production. Equipped with Goodrich Printers' Rollers.*

ARGENTINA

Critica, Buenos Aires
La Prensa, Buenos Aires

CHILE

La Nacion, Santiago
El Mercurio, Santiago

CUBA

Diario de la Marina, Havana
El Mundo, Havana
El Pais-Excelsior, Havana
El Sabado, Havana
Heraldo de Cuba, Havana

DENMARK

Berlingske Tidende, Copenhagen

FRANCE

L'Intransigeant, Paris

HAWAII

Honolulu Advertiser
Honolulu Star Bulletin

INDIA

Calcutta Statesman
Statesman, Delhi
The Hindu, Madras

JAMAICA

Kingston Gleaner

MEXICO CITY

El Excelsior
El Nacional
El Universal
La Prensa

NORWAY

Aftenpoften, Oslo

PANAMA

Panama American

PERU

El Commercio, Lima

PORTO RICO

El Dia, Ponce

URUGUAY

El Dia, Montevideo

VENEZUELA

El Impulso, Caracas
El Universal, Caracas

SPAIN

El Sol, Madrid
Prensa Espanola

JAPAN

Osaka Mainichi Shimbun
Tokyo Nichi Nichi
Tokyo Asahi Shimbun

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# *Printers'* Rollers

# Ink—The Silent Broadcaster

***The Unobtrusive Interpreter Between You and Editorial Thought***

PERHAPS it is only the technical men—the trained experts who engineer newspaper production—who thoroughly understand and appreciate the vast machinery, human and otherwise, back of getting out our newspapers.

The layman certainly values his newspaper as such. He knows what he gets out of it. Let the delivery boy fall down one single morning, and it's a serious calamity. But when the average citizen or home-keeper picks up the newspaper, scans it, and turns at once to the column which symbolizes his or her chief interest, there is little consciousness of the completeness of coordination of many talents, the high-pressure dovetailing of many abilities, the professional spirit manifest in the completed newspaper job.

Today's newspaper as a whole is incomprehensible. No one can read and digest all of it. There is such a diversity of appeal, so many interests are ministered to, that no one mind has the breadth to assimilate all that it offers. There is therefore, a specialization of interest. We each have *our column*, and our self-interest takes us there immediately, just as we turn down a favorite street, to a favorite room. Some outlandish happening staged in a main column may divert us temporarily. Some presidential election, game, or prize fight may sidetrack us momentarily. But immediately we hurry to satisfy ourselves on the subject nearest our heart.

There is no saying how interests match up, either. The scientists may rush at once to the story of Arcturus touching off the lighting of the World's Fair, the business man to the hog market, the housewife to the grocery advertising, and the six-year-olds to the funnies. On the other hand, sometimes they get in the wrong pigeonholes. Many a scientist has owned shares of stock and kept regular track of batting averages. And many a good cook reads Gene Sarazen's tips on how to overcome a slice.

The newspaper knows about all this diversity of interest and caters to every human failing or virtue, as you may choose to call it. They give us our daily ration of news, at vast outlay of brains and effort, at great expenditure of money. They play hob with human emotions. They raise us to the heights, they cast us in the depths. They bring smiles, also tears. But we can't go far out of touch with that sheet in which we seek and find a stimulation, from which we get our daily bearings.

The newspaper is the most magnificent literary effort of a writing and reading age. We accept it as a matter of course, and it's as sure as sun-up. Education and advancement, amusement and entertainment, buying and selling, home-building and travel, every human activity is guided and encouraged by this daily encyclopedia we call the newspaper.

Considering in detail the various features that enter into newspaper production, there is one factor of which the reader is perhaps the least conscious. And that factor is one of the most vital things in the whole procedure. If you saw it at work, contrasted against roaring machinery and other excitement, then later considered its effect, you might term it the *silent broadcaster*. It is *printing ink*.

Printing ink is not the whole thing in newspaper production any more than a good pitcher is *all* of a baseball team. But it is the final link in a chain of accomplishment. News-gatherers have done their work. Illustrators have done theirs. Type-setting and plate-making are completed. The press is loaded with its cartridges of ammunition, paper. Copies are wanted by the thousand, the million. News has not yet become a concrete, readable thing until *ink*, the silent broadcaster, enables a sheet of paper to reflect in visible form the characters and images which readers can translate.

Nor is plain readibility all there is to it. In newspaper production everything must click with lightning-like precision. Ink must click too. To print well is one thing, but to print well at the rate of say, forty-five thousand impressions per hour—over twelve complete newspapers per second—is quite another task requiring extraordinary vitality.

Ink, in a sense, is a very unobtrusive, inconspicuous communicant. As you read, you are scarcely conscious that an interpreter is between you and the original thought. Even in the full beauty of color, you become conscious of a sensation and forget that it is ink that creates it.

The reader who scans today's newspaper, for instance, with its type columns, its pictorial black and whites, its colored supplement, fails to realize that there is a tremendous engineering effort back of it—that in the laboratory of The International Printing Ink Corporation, experts labor over the varied properties of ink, a study of papers, the problem of the application of ink to paper at high speeds, as diligently as any medical man exercises his talent in relation to human life.

Thus, a vast realm of laborious experiment and painstaking manufacture is screened by simplicity, only another way of saying that you would never guess the number of intelligent cooks it took to make the cake you are enjoying.

Some of the most important things in the world have no press agent. They have become interwoven into the fabric of various businesses and are accepted for what they do and the brains back of their production have been left unsung. Men who print, however, are thoroughly appreciative of *ink*—particularly of those qualities in ink which enable them to produce speedily, economically, and satisfactorily.

The operations of The International Printing Ink Corporation are centered around the above objective. According to their principle, no constructive ink helpfulness can be cast in a stock mold and answer all conditions. It must be adjusted to the individual need of the newspaper.

Branches in twenty-six cities, reinforced by research laboratories and competent engineering staffs, place ipi in a resourceful position to apply an unusual *ink intelligence* to any specific need or problem. The newspaper is just now emerging into a new era of achievement—*color* in editorial and advertising pages. The newspaper of tomorrow will utilize the full power of color, and readers and advertisers alike will enjoy new advantages.

ipi is in step with all newspaper advancement, and publishers are invited to participate in the benefits of their constant research.

*Advertisement*

# PRINTING EQUIPMENT ENGINEER

TRADE-MARK REGISTERED U. S. PATENT OFFICE. ESTABLISHED 1910.

VOLUME 46
JUNE, 1933
NUMBER 3

DON WILL, Publisher — MacD. SINCLAIR, Editor

A Technical Magazine for Printing's Mechanical Executives

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## *Let others also read* The Engineer

After you have read this copy, pass this magazine along to the other men in your organization. They will undoubtedly get helpful ideas form its pages.

Check in left column after reading. Note articles of interest.

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☐ *Superintendent Press Room*

☐ *Chief Composing Room Machinist*

☐ *Superintendent Stereotype Foundry*

☐ *Monotype Department*

☐ *Photo Engraving Department*

☐ *Superintendent Electrotype Department*

☐ *Foreman Lithographing Department*

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# Junk 1000 Automobiles!

## *Of 17,000 Delivered Last Month*
## *Only 16,000 Proved Satisfactory!*

IMAGINE this condition in automobile manufacturing! Picture the cost of such faulty construction . . . wasted man-hours . . . additional overhead . . . interruption of orderly production procedure . . . planning to catch up to schedule . . . postponed delivery of 1,000 cars!

No automobile plant executive would permit every seventeenth new car to be junked, for he would have made it his business to provide tools adequate for efficient production.

Neither would a responsible executive in any industry ignore the regular, but preventable, destruction of a part of his product.

Yet, in the average composing room the equivalent of one galley in every seventeen is destroyed because of errors.

A national survey of original machine composition indicates that of each 100 lines six (**6%**) are reset on account of errors — one in every seventeen is junked. Assuming that only double time is necessary to set a correction line, **12%** (2×6%) of the average operator's time thus is devoted to non-productive effort. Hence, **18%** (6%+12%) of all operator-hours are spent in producing and correcting the lines which contain errors.

To this waste must be added the time of proofreaders and floor men in handling proofs, in detecting errors, and in placing corrections. Surely, composing rooms not only are "junking every seventeenth car" but *replacing* it at many times its original cost.

But it isn't necessary to replace every seventeenth line. By the application of our Black and White process to ordinary brass matrices — *making reference characters plainly visible in the assembler* — a significant proportion of error waste can be eliminated.

This isn't guess-work. We *guarantee* a 25% reduction in all errors in original composition and *prove this saving* before you pay us a penny.

**Matrix Contrast Corporation**

Empire State Building New York, N. Y.

(Sole licensees of the Percy L. Hill Black and White Patent No. 1466437, held valid by U. S. District Court, Eastern District of New York. Infringers will be vigorously prosecuted.

PRINTING EQUIPMENT ENGINEER
JUNE, 1933

# *Fourth Conference of the Technical Experts, A.S.M.E.*

WHAT has come to be accepted as an important forum for the discussion of the technical problems of the printing industry will have its fourth-year meeting in Chicago during Engineering Week of the Century of Progress Exposition on

*Floyd E. Wilder, Chairman of the Printing Industries Division, A. S. M. E., Who Will Preside at the First Session of the Conference to Be Held in Chicago.*

Monday and Tuesday, June 26 and 27, in the Grand Ballroom of the Palmer House.

While the Conference of the Technical Experts in the Printing Industry is nominally under the auspices of the Printing Industries Division of The American Society of Mechanical Engineers, its attendance and its program are dependent upon the sponsorship and cooperation of all of the organizations and associations in the printing and the paper and pulp industries. The program for the Fourth Conference was made up from the suggestions contained in replies to a questionnaire sent out to all of the technical men of these organizations, and it will be seen that this conference differs materially from the preceding ones in that all of the papers are by "users."

The practical experience of the leaders of the industry in methods and machinery will be given for the benefit of the industry. At each of the four sessions of the conference, there will be ample time for the discussion of the interesting subjects covered in the program, and it is expected that makers and users will be fully heard in the amplification of each subject.

At each succeeding conference of the series the attendance has doubled, those registering at the Third Conference, held

*Edward Pierce Hulse, Secretary of the Printing Industries Division, American Society Mechanical Engineers.*

in New York City, in March, 1932, numbering almost a thousand. The program for the Fourth Conference is as follows:

MONDAY, JUNE 26

9:30 a. m.—*Printing Session I*—Grand Ballroom.

Presiding Officer: Floyd E. Wilder, Chairman, Printing Industries Division, A. S. M. E., Hearst Publications, New York, N. Y.

*Printing Progress*, by Special Committee, Burt D. Stevens, Chairman, Mem. A. S. M. E., Vice Pres., Miehle Printing Press & Mfg. Co., Chicago, Ill.; George H. Carter, Mem.

A. S. M. E., Public Printer of the U. S. Government Printing Office, Washington, D. C.; and Floyd E. Wilder.

*Printing Progress and Labor,* Major George L. Berry, Pres., International Printing Pressmen's and Assistants' Union, Pressmen's Home, Tenn.

2:15 p. m.—*Printing Session II*—Grand Ballroom.

Presiding Officer: George Van Vechten, Mem. A. S. M. E., Supt., Stecher Lithograph Company, Rochester, N. Y.

*Program of Cooperative Printing Research in America,* Arthur C. Jewett, Mem. A. S. M. E., Director, College of Industries, Carnegie Inst. of Tech., Pittsburgh, Pa.

*Press Drive and Control for Modern Presses,* Joseph E. Ridder, *Journal of Commerce,* New York, N. Y.

*Informal Discussion of Photoelectric Tube Application, Ink Drying by Violet Ray, the Strobescope, Etc.*

TUESDAY, JUNE 27

9:30 a. m.—*Printing Session III*—Grand Ballroom.

Presiding Officer: Joseph M. Farrell, Mem. A. S. M. E., The Blackman Co., New York City.

*Improved Printing Results from Air Conditioning,* Prepared by the Cuneo Press, Chicago, Illinois.

*Use and Care of Rubber Rollers,* Harry B. Adsit, Mech. Supt., Pittsburgh *Post-Gazette,* Pittsburgh, Pa.

*Informal Discussion of Developments in Direct-Pressure Stereotyping.*

2:15 p. m.—*Printing Industries Group Conference*—Room 10.

Presiding Officer: William C. Glass, Mem. A. S. M. E., U. P. M.-Kidder Press Co., New York, N. Y.

Topics: Color Photography from Color Negatives; Standardization of Process Colors.

# Coordination, Color Work, Roll Changers

## *To Hold Attention of Mechanical Executive Delegates at A. N. P. A. Mechanical Conference in Pittsburgh*

*By* STAFF WRITER

THE A. N. P. A. Mechanical Committee, through Manager W. E. Wines, has announced the completed program for the Mechanical Conference to be held at the William Penn Hotel in Pittsburgh, June 6, 7 and 8.

Two days of the three will be devoted to economies in the composing room, stereotype room and the pressroom. Particular stress will be laid upon the necessity for close cooperation between the mechanical departments and the departments which furnish the news and picture copy. Two outstanding editors who practice cooperation with the mechanical and business departments will open the program. Well-known mechanical executives will also appear on the programs Tuesday and Wednesday.

Cognizance is being taken of coordination between the editorial and mechanical departments in the making of the daily newspaper by giving over a considerable part of the program to this subject. Coordination between departments is production economy inasmuch as production economy can be realized through development of the former. Any economically-minded mechanical executive can reduce labor costs directly by layoffs, up to a certain point, but without coordination between departments (over some of which he has no control) production costs are apt to be maintained at an uneconomical level because of his inability to do anything about it. The discussion, therefore, by sympathetic speakers should encourage the editorial department and the mechanical executive to bring about an improvement in interdepartmental responsibilities to the end that operating economies may be effected in many plants.

On Tuesday afternoon, June 6, Frederick H. Keefe, publisher of the Newburgh (N. Y.) *Beacon-News,* will speak on "My Experience with the Teletypesetter."

At Wednesday morning's session, Walter E. Wines, Manager of the A. N. P. A. Mechanical Department, will give a report on his investigation of "Dry Mat Dimensions and Specifications." At the Cincinnati Conference there was considerable discussion upon standardization of dry mat sizes. Mr. Wines was instructed to investigate the possibility of standardization of dry mats with respect to area, thickness, moisture content, etc., and to make recommendations for the information of the various member newspapers.

Topics on the program which are more purely technical, such as the use of color in newspaper advertising and the new high-speed roll changers, will be discussed on the third day.

The program for the entire three days is as follows:

TUESDAY, 10 A. M.

Chairman—William L. Fanning, Treas., Westchester County Publishers.

*"Coordination Between Editorial and Mechanical Departments."* Oliver Owen Kuhn, Managing Editor, Washington *Star;* Paul Bellamy, Editor, Cleveland *Plain Dealer.*

TUESDAY, 2:00 P. M.

Chairman—John E. Martin, Prod. Mgr., New York *Sun.*

*"Coordination Between Editorial and Mechanical Departments."*—Continued. Richard L. Huehne, Art Director, Pittsburgh *Press;* Leon A. Link, Composing Room Supt., Des Moines *Register and Tribune.*

*Discussion.*

*"My Experience with the Teletypesetter."* Frederick H. Keefe, Publisher, Newburgh *Beacon-News.*

*Composing Room Topics.*

*Photo-Engraving Topics.*

TUESDAY, 8:00 P. M.

*Lecture and Demonstration—"Recent Discoveries in Electrical Research."* Dr. Phillips Thomas, Westinghouse Electric & Manufacturing Co. This lecture and demonstration, covering recent discoveries and develop-

*Continued on page 38*

### YEAR'S TWO MOST IMPORTANT MECHANICAL EXECUTIVE CONFERENCES

June 6, 7 and 8:

The A. N. P. A. Mechanical Conference will be held at the Hotel William Penn, Pittsburgh, Pa. W. E. Wines is manager of the department and his address is 370 Lexington Ave., New York, N. Y.

June 26 and 27:

The fourth conference of the Technical Experts in the Printing Industry, American Society of Mechanical Engineers, Printing Industries Division, will be held at the Palmer House, Chicago. Edward Pierce Hulse is secretary of the Division and his address is 29 West 39th St., New York, N. Y.

# The Accuracy of Electrotyping Reproduction

## *Author Asserts That the Electrolytic Reproduction of a Relief Printing Plate is Far More Accurate Than Required*

*By* J. Homer Winkler*

When originals, patterns or forms containing fine detail, are to be electrotyped, it is reassuring to the buyer of electrotypes to know that none of the detail will be sacrificed as a result of the reproduction. This statement applies to all electrotyping, but is especially true of nickel electrotypes from lead molds. It is entirely possible that in some cases the detail of the finished plate may not be as fine as in the original. This is not because of inaccuracies of electrolytic reproduction, but is due to certain mechanical difficulties encountered during other necessary steps in its manufacture as will be indicated further in this article.

Some figures indicating the degree of accuracy of reproduction of a mold surface by a metal that is electrodeposited against that surface may be of interest. It is this method by which electrotype shells are regularly made in the manufacture of electrotypes.

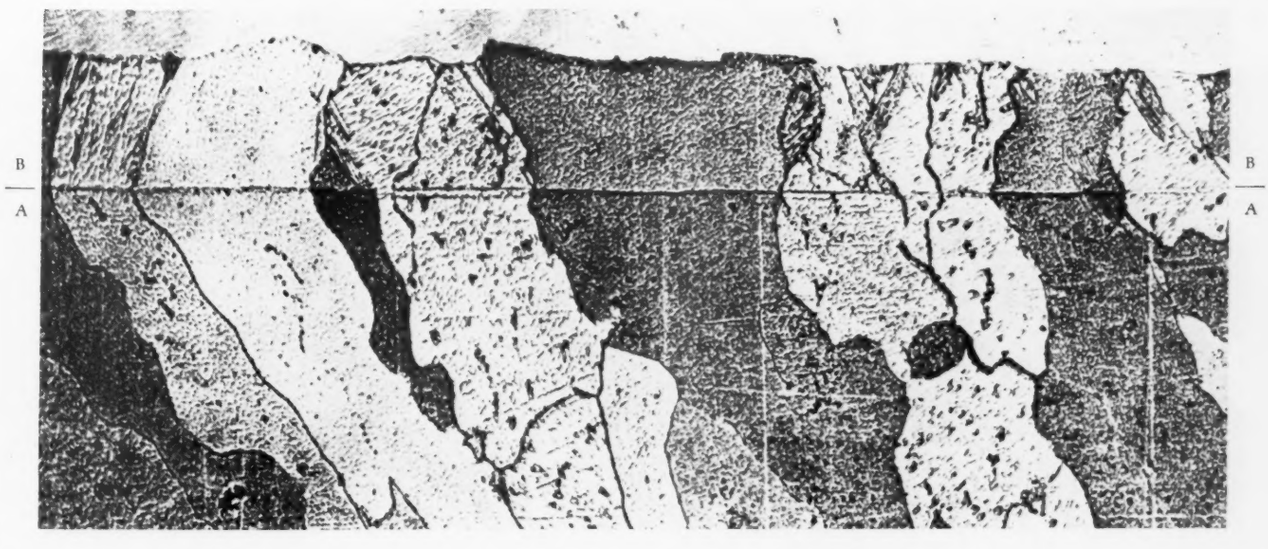
The influence of the crystalline structure of the base metal (*i. e.*, the metal being plated on) upon that of the electrodeposited metal has been the subject of several investigations. Blum and Rawdon[1] (of the Bureau of Standards) found that copper deposited electrolytically upon cast or rolled copper that had been etched with nitric acid to bring out the crystal structure of the copper possessed both the crystal form and crystal alignment (orientation) of the base metal. This effect was further substantiated by Graham[2] (of the University of Pennsylvania) with copper deposits. Although the results with nickel deposits were uncertain, there were indications that the same effect was produced. In a later study of a more comprehensive nature upon the effect of all of the variables in the electrodeposition of copper upon the crystalline structure of the deposit, Graham[3] confirmed his earlier results.

In all three of the above published papers a number of photomicrographs were reproduced. Magnifications ranging from 100 to 500 diameters were used in making these pictures. A typical photomicrograph is shown in the illustration. This was taken of a piece of cast copper. The surface of the copper was cleaned and etched very lightly with nitric acid to reveal the crystal structure and then plated with copper to the thickness of about 0.004 in. The base metal is the lower area of the picture marked A, while the deposit is the area just above it marked B. The fine line between the deposit (B) and the base metal (A) is the contact between the two. An examination of this line reveals the most intimate contact. Since this picture was made at a magnification of 100 diameters the entire width of the picture represents approximately 0.035 in. Thus small irregularities of the order of 0.001 in. in the base metal are readily seen to be accurately reproduced in the deposit. In one micrograph published in the same paper (not reproduced here), taken at a magnification of 500 diameters it is possible to see surface irregularities of 0.0001 in., which are reproduced completely in the deposit.

In a few unpublished experiments performed at the Bureau of Standards, a small section of a spectrum grating was ruled on speculum metal and reproduced in the same manner as an electrotype shell. Measurements made on this reproduction showed all of the rulings and dimensions to be identical with the original. Polishing scratches of the order of 0.0001 in. and less in width were also clearly reproduced. The purpose of these experiments was to determine the accuracy of electrolytic reproduction.

The probable diameter of a high-light dot on a plate of 150 screen is of the order of 0.001 in. Some of the finest rules in

*Continued on page 42*




*Photomicrograph[4] of cross section of copper deposited electrolytically on a surface of cast copper. The zones indicated are composed of the following: A, base metal; B, electrodeposited copper. The magnification used in this case was 100 diameters. The entire width of the photograph represents distance of 0.035 inch on the metal specimen.*

* Assistant Manager, Ace Electrotype Company, Cleveland Ohio. Member, Electro-Chemical Society.

[1] W. Blum and H. S. Rawdon, Trans. Am. Eletrochem. Soc.; *44*, 305 (1923).

[2] A. Kenneth Graham, Trans. Am. Electrochem. Soc.; *44*, 427, (1923).

[3] A. Kenneth Graham, Trans. Am. Electrochem. Soc.; *52*, 157, (1923).

[4] This photomicrograph, from the paper by Blum and Rawdon referred to in footnote 1, is reproduced by permission of the Bureau of Standards.

# Novel Mechanism for Automatic Ink Agitator

## *Distinguishing Feature Is a Single Agitating Finger Which is Caused to Move Intermittently as Printing Press is Operated*

*By* MacD. Sinclair

Of general interest to mechanical executives, as well as commercial pressmen, is the patent which has been issued recently to Fred E. Weed of Columbia, Mo., upon an automatic ink agitator for attachment to the fountain of a printing press.

The primary object of the agitating attachment is to agitate or stir the ink in the press fountain so as to secure an even flow of ink at all times and to cause the ink to work downwardly against the feed roller. The pigment in the ink (including extraneous matter) is prevented from collecting against the feed roller, in which case the proper flow of ink would be retarded. Heavily bodied inks may be kept in the intended working consistency through the use of the agitator and the pressman will be relieved from the manual labor incidental to stirring the ink in the fountain by hand. By its use, it is claimed, that any ink will retain its correct state of fluidity so as to avoid any variance in its density as the ink is taken from the fountain while the press is in operation.

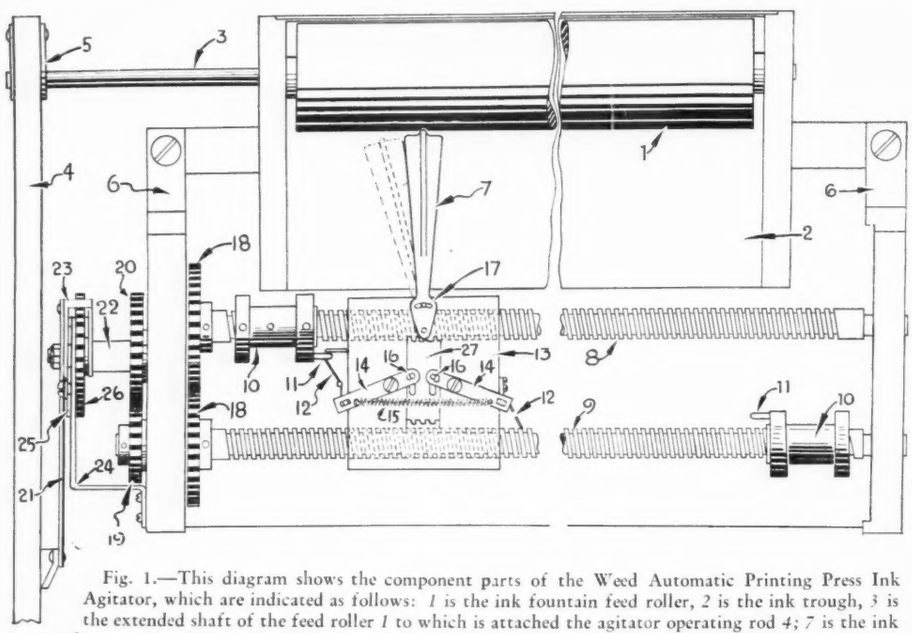



Fig. 1.—This diagram shows the component parts of the Weed Automatic Printing Press Ink Agitator, which are indicated as follows: *1* is the ink fountain feed roller, *2* is the ink trough, *3* is the extended shaft of the feed roller *1* to which is attached the agitator operating rod *4; 7* is the ink agitating finger mounted upon the carriage *13;* within a recess in the carriage *13* is a screw clutch *27* and connected to it by pins are two spring-tensioned pivotal links *14;* these in turn are engaged by tripping arms *12*. The adjustable split sleeves, mounted on operating screws *8* and *9*, are indicated at *10* and *10*. Fastened in the adjustable sleeves are the tripping pins *11* and *11*.

Operation of the mechanism is as follows: The customary fountain inking roller *1* with extended shaft *3* is caused to move in a step-by-step manner by its fastening to the rod *4* which is operatively connected with the usual power mechanism of the printing press.

Connected with the rod *4* is a fixed arm to which is pivotally connected a link *21*, the same being also pivotally connected to a rocker arm *23* carrying a ratchet pawl, the same being engageable with a ratchet pinion or wheel *26* fixed with the gear *20* so that the fixed arm will impart a step-by-step movement to the gear *20* which transmits motion to the operating screws *8* and *9*. The arm *23* is loosely mounted on its stud journal and adjustably fixed to the bracket *24* secured to the frame *6*. At *25* is a cam which is designed to regulate the action of the pawl on the ratchet pinion or wheel *26*. By setting the cam it will control the engagement of the pawl and ratchet wheel according to a determined number of the teeth of the pinion or wheel so that the speed of rotation of the screws *8* and *9* and the travel of the carriage will be controlled.

The operating screws *8* and *9* at the left end of the frame, have gears *18* and *18* affixed to the shafts so that motion imparted to one of the gears by the gears *19* and *20* will permit motion to the other gear in a reverse direction. The gear *20* is intermittently operated in a step-by-step manner through the action of the pawl working on gear *26*.

As the screws *8* and *9* revolve, the carriage *13* is caused to traverse the length of the screws. This is accomplished through a screw clutch *27* resting in a slot within the carriage. The clutching ends of the clutch *27* are made in such a way that when one of the ends of the clutch is in engagement with the threads of the screws *8* or *9*, it will fit exactly.

Affixed to an opposite end of each screw *8* or *9* is a spool or adjustable split sleeve *10* and *10*. When the carriage *13* approaches the end of screw *8* or *9* to reverse the carriage motion a tripping pin *11* strikes the tripping arm *12*. The action of the tripping arm *12* describing a vertical section of a circle operates one of the links *14* to slidably move the clutch *27* out of engagement with the operating screw *8* or *9* and its opposite end into engagement with the other screw. The carriage will now instantly reverse its direction of travel.

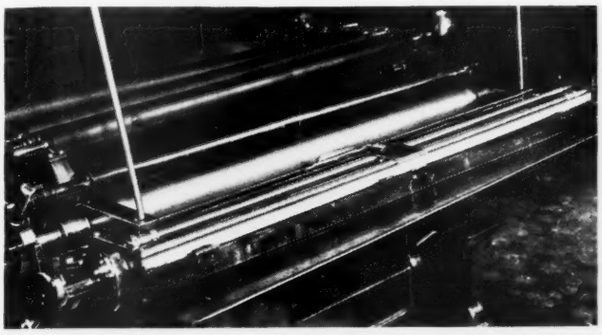
The action of the carriage motion being reversed also causes the agitating finger *7* to swing slightly. This movement is limited by a pin working in an arcuate-shaped slot *17*.

The spring *15* when the links *14* are shifted passes from one side of the pivotal axis of the links to the other, thereby reversing the position of the tripping arm *12* on the carriage *13* to automatically control the back-and forth travel of the carriage through the tripping pins *11*.

As will be seen in the diagram, Fig. *1*, the agitating mechanism is carried within a frame, *6*, which is mounted on the press. Hinged brackets attach the frame to the press so that the entire device may be raised to operating position or lowered out of the way when desired.

The distinguishing feature of this mechanism is the single agitating finger, *7*, which moves intermittently from one end of the fountain trough to the other. On a 50-in. fountain, the agitating finger will travel from one end of the fountain to the other every 25 press revolutions but may be geared to go faster if desired. The finger is pivotally affixed to a carriage mounted between two parallel reversely feeding screws. These screws are cut two threads to the inch. The carriage is adapted to a reciproca-

tory movement upon the screws through a clutch arrangement. When the carriage, through the impetus imparted by the revolving screws, approaches one end of the fountain, a little lever on the clutch in the carriage is engaged by a tripping lug on the rotating collar



*The Weed Ink Agitator Attached to a Printing Press. The Carriage Which Propels the Single Ink Agitating Finger Can be Seen About Midway of the Fountain Roller.*

mounted on one end of the operating screws. The act of tripping the clutch throws it out of engagement with the screw and at the same time engages its opposite clutching surface (which carries the same pitch) with the reversely revolving screw. The operation is repeated so long as the press is in motion. That is, the carriage will be caused to reverse its travel each time the agitating finger approaches the opposite end of the ink trough by means of a lug which projects from the revolving tripping collar.

The agitating mechanism receives its motion through a rod, *4*, Fig. *1*, which is attached crankwise to an extended shaft passing through the fountain feed roller, *1*.

The agitating finger can be set to work the whole length of the fountain or any part of its length by adjusting the spools or adjustable sleeves, *10*, inwardly from either end of the screws, *8* and *9*, to cause the carriage to trip where desired.

It is also a part of Mr. Weed's plan to adapt the agitator to split fountains by a simple attachment. Instead of the agitating finger, *7*, being placed on the carriage as used on straight or regular fountains, the finger is removed and in its place a bar is sustituted. This bar measures one-half the length of the fountain feed roller. An agitating finger is placed at either end of this bar. The spools, *10*, (so constructed as to form split sleeves threaded on one end) are loosened with a small pin wrench, moved in from both ends and are then locked in the position desired. Underneath each end of the bar is fastened a piece having a slot which fits over the inside frame edge. These hold the bar in position as it moves back and forth.

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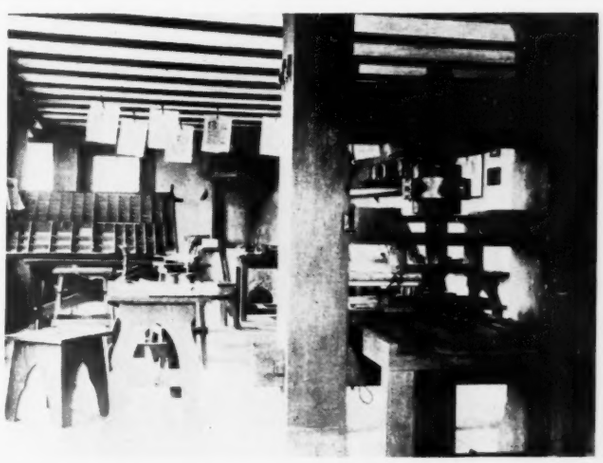
# First Gutenberg Press Has Been Brought to America

THE birth of the modern newspaper and book in Johannes Gutenberg's printing shop of the fifteenth century will be reenacted daily for visitors to the Chicago Century of Progress exposition. The original Gutenberg press, on which was used the first movable type ever cast, arrived in America, May 12, on the Europa from the Gutenberg Museum of Mainz, Germany, to be installed with other original equipment of the Gutenberg print shop in the exhibit of printing and engraving processes in preparation by the Cuneo Press of Chicago, in the General Exhibit Hall.

The Gutenberg exhibit is the result of special permission granted by Dr. A. Rupel of the Gutenberg Museum and the burgomaster of Mainz, said John Cuneo of The Cuneo Press, Chicago. This is the second time the historic equipment has been permitted to leave Germany, in the 480 years that span the development of the printing and publishing arts and industries. It is the first showing outside Europe.

The primitive type foundry used by Gutenberg will accompany the Father Adam of all printing presses to America. The pressroom, type foundry and composing room equipment will be operated at the exposition on strict 15th century lines, the printers wearing the European work costumes popular before the discovery of America, and using hand made paper closely approximating the product of which the first printed books were made. Some of the earliest books will be on exhibit, including an original Gutenberg black letter Bible.



*The original Gutenberg Press, on which was used the first movable type ever cast 480 years ago, and which marks the beginning of the modern newspaper and book, was brought from the Gutenberg Museum in Mainz, Germany, to Chicago for The Century of Progress Exposition. Shown here is the press itself, the composing room and type foundry. This is the second time that this historic equipment has been permitted to leave Germany and the first time to go outside Europe. The historic print shop will be operated daily for Century of Progress visitors exactly as it was in Gutenberg's day, the printers wearing the costumes of nearly 500 years ago. The exhibit is being made possible through the efforts of John Cuneo of The Cuneo Press of Chicago and Dr. A. Rupel of the Gutenberg Museum.*

# A Washing Machine for Line-Composing Matrices

## *Used in Government Printing Office Where 840 Fonts are Cleaned Regularly—Details of Cleaning Fluid Study*

*By* B. L. WEHMHOFF*

CLEANING matrices presents somewhat of a problem to every plant equipped with linotype machines. The United States Government Printing Office uses 172 linotype machines equipped with 840 fonts of 1500 matrices each, not including the sorts. Keeping such a quantity of matrices clean presented a real problem to the type machine section, which is responsible for the maintenance of all casting machines and auxiliary equipment.

The customary method of cleaning matrices by hand cleans the sides, but not the "ears" and "toes." This method is very slow, one man being able to clean but one font per day. Even with the four men formerly required to clean matrices at the Government Printing Office it was not possible to keep all of the matrix sets in first-class condition.

As a result of a study of the problem, D. L. Liddle, Chief Type Machinist, designed and built the matrix washing machine now in use in the Government Printing Office. He was later granted United States Patent No. 1,753,243 covering his invention.

The washing machine comprises a galvanized iron box 32 in. long, 16 in. wide and 13 in. high, with a tight-fitting flanged cover and a 1 3/16 in. shaft, supported by bearings and connected to a 2 h. p. motor, extending lengthwise through the box. The shaft is positioned 7 in. from the bottom of the box and is centered from each side. Two 7-inch spiders, 21 in. apart, slotted to hold 6 balanced removable distributor bars are mounted on the shaft. The rails are blank and have not been cut for combinations in the customary manner, thus permitting all linotype matrices to be mounted on them, and are held in place on the spiders by 5/16 in. bolts. Details of construction are given in the accompanying drawings.

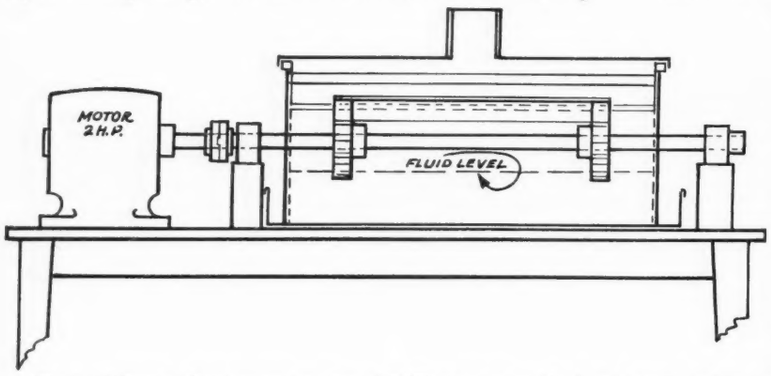



*Fig. 1.—Diagram showing construction of Liddle Composing Machine Matrix Washer. It is said that three full-size fonts of matrices can be cleaned, dried and afterwards burnished by one man in an hour's time by the use of this machine.*

One font of matrices is placed on a large galley and divided into six equal rows. They are then mounted on the six distributor bars, following which the bars are bolted in place on the spiders and the cover replaced.

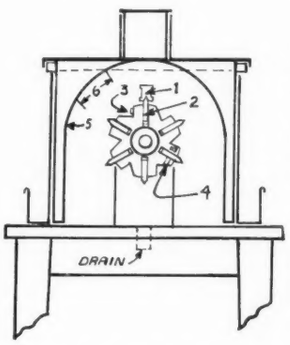



*Fig. 2.—End view of Liddle Matrix Washing Machine. Two spiders, 4 are mounted 21 in. apart on a shaft. Six distributor bars, 2, (on which the tooth combinations have not been cut) are fastened on the spiders, 4, and held in place by 5/16 in. bolts, 3, to hold the matrices 1. The spider mechanism is then revolved to wash the matrices in the cleaning solution. At 5 is shown the splash guard or housing to confine the cleaning solution. A drain plug is fitted in the bottom of the fluid chamber. The distributor bars are made easily removable in order to facilitate putting matrices on each bar preparatory to washing and to make sliding them onto a tray after the bath a simple matter.*

Care must be taken to see that the same weight of matrices is placed on each bar. Seven gallons of cleaning fluid are added to the reservoir which is just sufficient to cover the matrices on the lowest distributor bar.

The shaft is then rotated at a speed of 700 r.p.m. for 5 min., reversed and run in the opposite direction for 5 min. This forces the matrices through the cleaning solution at a high rate of speed. Reversing the direction of rotation cleans both edges of the matrices. The time required to clean a font of matrices depends upon the condition of the font, but ten minutes is usually sufficient. A fresh solution is used for every four fonts. It is not necessary to completely remove the black stain from the sides of the matrices, but the "ears" and "toes" and recesses around them must be thoroughly cleaned.

When the washing is finished, the distributor bars and matrices are removed from the machine and thoroughly rinsed with warm water to remove all traces of cleaning solution. The matrices are then dried by compressed air and the "ears" and "toes" are burnished with an electrotyper's brass bristle brush. If any reference faces are washed out, writing fluid is applied with a

*Technical Director, Government Printing Office, Washington, D. C.

small brush, the excess being wiped off the surface after it is dry. By using this machine, one man can clean, dry and burnish three fonts of ordinarily dirty matrices in an hour's time.

The question of a formula for the cleaning solution was put up to the technical division for study. The re-

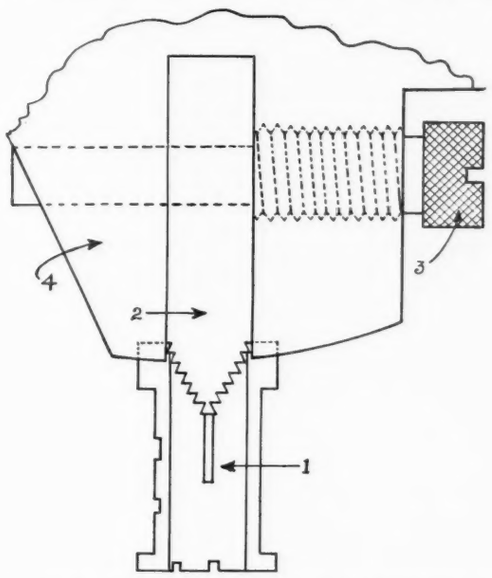



*Fig. 3.—Detail drawing which shows how the distributor bar, 2, is fastened to the spider, 4, by means of a knurled-head hand screw, 3.*

quirements were a solution which would not injure the matrices in any way, but which would remove all grease, dirt and oxidized metal. Safety in operation and cheapness were also considerations. Several chemicals are or have been used to clean matrices from time to time. Chief among these are chromic acid and its salts. These materials were not given serious consideration since actual tests showed a strongly corrosive action on the matrices. Immersion of both clean and dirty matrices in chromic acid solution of the strength commonly used for this work showed a loss of 2.2 per cent weight in 10 minutes. In addition, chromic acid and its salts are all poisonous, causing an aggravated form of dermatitis which is very difficult to cure.

Sodium cyanide, also a poison, has long been used in certain cleaning operations on brass. It has a corrosive action but it was believed that a very small amount could be used in a detergent mixture without injuring the matrices.

The first formula required the use of tri-sodium phosphate, liquid soap and sodium cyanide. For some time the results appeared satisfactory, but later it was noted that the sodium cyanide was having an adverse effect on the matrices. About this time two chemists, P. H. Groggins and W. Scholl of the United States Department of Agriculture announced that ortho-dichlorobenzene, a byproduct in certain chemical plants, had been found to be an excellent solvent for greases and metallic oxides, but that it had no effect whatsoever on metals or alloys. Further experiments conducted in the laboratory with this material resulted in the development of the following formula which has been used successfully for several years:

Ortho-dichlorobenzene, 8 ounces.
Tri-sodium phosphate, 6 ounces.
Water, 7 gallons.

If the matrices are badly oxidized they can be cleaned by substituting two ounces of sodium cyanide for the ortho-dichlorobenzene. The use of this cleaner will result in no harm to such matrices, but its regular use is not recommended. Care must be exercised in handling the cyanide and it should not be allowed to come in contact with acid.

## Monarch Monometer Furnace in New Plant

The Monarch Engineering and Manufacturing Co., Baltimore, Md., has installed a 2-ton Monarch Monometer gas remelting furnace in the plant of The Christian Science Publishing Society, Boston, Mass., in addition to molds and trucks made by the same firm.

## Correction

In the May ENGINEER it was stated the Carl W. Jones of the Minneapolis *Tribune* would appear on the A. N. P. A. Mechanical Conference program at Pittsburgh, June 6, 7 and 8. Mr. Jones is publisher of the Minneapolis *Journal* and we are glad to make the correction.

## New Composing Room Foreman for Rochester Gannett Paper

Announcement has been made of the appointment of Richard M. Seymour to the position of foreman of the Composing room of the Rochester (N. Y.) *Democrat and Chronicle*, one of the Gannett group of newspapers.

The *Democrat and Chronicle* is one of the two Rochester Gannett Newspapers. The other is the Rochester *Times-Union* on which Mr. Seymour was employed up to the time of his appointment to the *Democrat and Chronicle* position. Both papers are printed in the same plant, but business and editorial departments are separate.

At 31 years of age, Mr. Seymour has attained prominence in the printing fraternity, political and Masonic circles. For three years he was chairman of the chapel of the Rochester *Times-Union*. He also served a term as president of Rochester Typographical Union and was a delegate to the convention of the International body at Seattle in 1929. He has also served in the capacity of asociate editor of the Rochester *Labor Herald and Citizen*.

Mr. Seymour has named Elmer Fredericks assistant foreman.

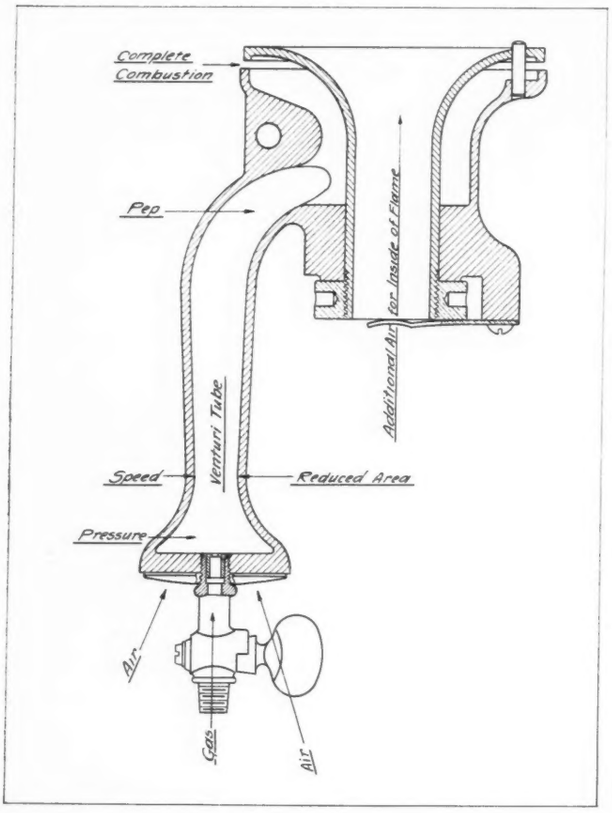
Other Gannett Newspapers include the Elmira *Star-Gazette*, the Elmira *Advertiser*, the Elmira Sunday *Telegram*, the Albany Knickerbocker *Press*, the Ithaca *Journal-News*, the Malone Evening *Telegram*, the Newburgh *News*, the Beacon *News*, the Ogdensburg *Journal*, the Olean *Times-Herald*, the Utica *Observer-Dispatch*, all of New York state, and the Hartford (Conn.) *Times*, and the Plainfield (N. J.) *Courier-News*.

# Venturi Type Burner for Intertype Gas Pots

***Burner Designed in Accordance with the Venturi Tube Principle— Heats Metal from Crucible Side Wall Toward Center***

*By* D. L. ANDERSON*

THE Venturi type gas burner now being used to melt metal in the crucibles of Intertype line-casting machines employs a new principle in delivering gas to the point of combustion and reduces the number of control cocks from three to one. With this new burner the conventional mouthpiece burner tube has been retained. The burner was developed by the engineering department of Intertype Corporation working in collaboration with the New York Consolidated Gas Company engineers. Practical laboratory and operating tests show a saving of 30% in gas consumption.




*Cross-section diagram showing construction of Venturi Type Gas Burner which is now used to melt the metal in the pot crucibles of Intertype composing machines.*

The words "Venturi type" are used because the gas-air mixing chamber is designed in accordance with the Venturi Tube principle which may be explained as follows. If a tube through which gas is passing is reduced at any point between the inlet and outlet, it will increase the speed of the gas at the point of reduction and decrease the pressure and after the gas has passed the point of reduction the speed will then again be reduced and the pressure will be decreased. This change in action imparts to the gas an increased amount of life or "pep" at the outlet with the result that the gas will burn with a blue flame and nearly complete combustion. The only fundamental difference between the Venturi type burner and the conventional Bunsen burner is in the reduction quality of the Venturi type burner mixing chamber between the inlet and the outlet.

The burner produces a solid circular flame 4 in. in diam. and heats the crucible from the sides toward the center. This action melts the line-slug metal nearest the sides first and the expansion which occurs is absorbed by the wall of the crucible rather than by the bottom. As a result, there is less likelihood of this expansion causing cracks in the bottom of the crucible. The flame is powerful enough to heat the entire heating surface of the crucible and includes the throat area which was previously heated by the separate burner tubes.

There is one adjustment for various gas pressures, or the different kinds of gas which may be used, such as natural, artificial, pyrofax, etc. It is obtained by regulating the opening of the burner at the point of combustion, and is indicated by the words "complete combustion" at the top of the diagram. This opening at the top is regulated by turning the adjustable nut at the bottom of the burner, shown in cross-section in the diagram. The spring maintains the position of the nut after the adjustment has been completed.

The design of this new burner eliminates the two throat and back burner tubes previously employed in the former Intertype burner. With the former type, difficulty was experienced at times in keeping the throat burner tubes ignited because the products of combustion would extinguish the flames and make trouble in the casting operation by causing slugs to be cast with chilled type faces.

The newer construction, it is claimed, also reduces carbonization and clogging of the gas outlets at the point of combustion.

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## Bristol Company Moves

The Bristol Company, Waterbury, Conn., makers of indicating, recording and controlling instruments, announces that beginning May 1, the New York Office will be located in the Daily News Building, 220 East 42nd Street. C. W. Williamson, District Manager, continues in charge.

*Assistant Chief Engineer, Intertype Corporation, Brooklyn, New York.

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# Photo-electric Stop for Presses In Case of Paper Break

## *Mechanism Which Shuts Down the Press Described—Over-running of Paper Roll Prevented by Application of Brake*

*By* HORACE H. RAYMOND*

IN ORDER to get a clear mental picture of the operation of the photo-electric stop as developed by the writer it will be described as operating on a rotary newspaper press, having four printing units combined in the same frame, each unit being capable of being operated independently or in combination with any or all of the others.

The paper stock or web is fed through various rolls to the printing cylinder and thence to the folder where it is combined with other webs, and folded and cut into the finished newspaper.

When one of these webs breaks while the press is running at high speed, considerable damage may be caused. The printing of the paper is delayed, an expensive rubber blanket may be ruined and paper is wasted.

To reduce this damage to a minimum and bring the machinery to rest as soon as possible after a break, "watching electric eyes" may be installed to "see" each individual web and shut the press down as soon as the break occurs. While this system is designed to work in combination with any number of watching units, it will be assumed that four, one for each unit of the press, is sufficient.

Each watching unit consists of a small sheet-metal box containing a 40-watt Mazda lamp of the house-lighting variety, and a photo-electric cell. The unit is hung from the press frame so that it is a few inches from the paper. Light from the lamp shines on the paper and is reflected back to the photo-electric cell or electric eye.

The four photo-electric cells of the four units are connected in series with a single photo-electric relay, the latter being located at some spot remote from the watching points. If one of the four cells be darkened, that is, if it loses its reflected light as in the case of a paper break, the effect is the same as if all the cells were darkened; the photo-electric relay responds to the change by opening a pair of contacts. When installing, wires are run from the "stop" button on the press to these contacts, and the effect is the same as though the "stop" button had been pressed.

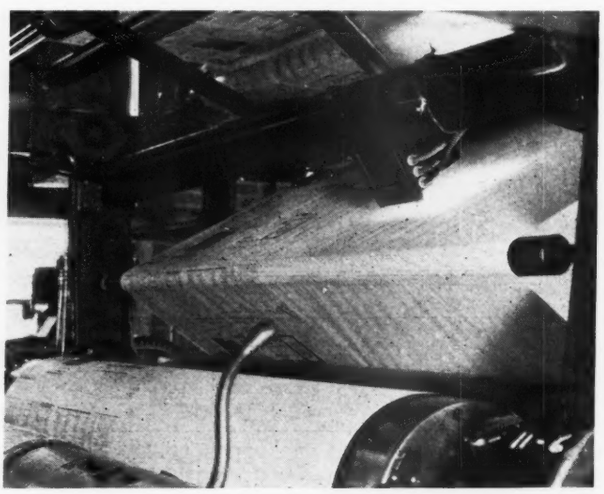
One advantage of this system is the compensating feature. A control station is located at some point on the press convenient to the pressman's hand. By turning a dial he compensates for the following possible variables:

1. Whether the paper has been printed upon or is plain.
2. When no paper is being run at some of the watching places.
3. Lamps or photocells becoming dim with dirt.
4. Lamps dim with age.
5. Variations of sensitivity in photo-cells.
6. Black advertisements on one page but not on others.
7. Variation in lighting of press room.

All of these variations are transmitted to the one amplifying tube in the photo-electric relay and compensation is made as follows:

When the paper is ready to be printed, the press is started so as to cause the printed matter to move past the eyes. This creates the average light reflection on each of the photo-cells. The resultant current through the relay is then noted by the pressman on a milliammeter which is on the face of the control box. The pressman need not know how to read the meter or what the figures mean. A red mark on the dial shows where the needle should be positioned. The control knob is turned, as in tuning in a radio set, until the needle registers with the mark. This one adjustment compensates for variations in all the stations and no further attention is necessary.

If one of the 40-watt lamps should burn out, or the vacuum tube burns out, or if the current supply fails, the press will stop. In case no paper is run at one or more of the watching stations, a hinged cover which is a part of each watching unit must be raised. This allows the light to fall directly from the lamp to the cell, thus preventing the cell from responding to any change in the light conditions surrounding it.



*Unit installation of the Raymond photoelectric device for stopping the press in case of a paper web break. The "eye" installation may be seen above the web towards the upper right-hand side of the picture.*

Tilting back this hinged cover also exposes the lamp and cell so that they may be cleaned by wiping them off with a cloth. The bottom parts of the photo-cell and lamp, including their sockets are housed in a dust-tight base where flying lint and printers' ink cannot reach them.

An optional part of this control system is a brake which acts in conjunction with the photo-electric units to automatically stop each of the heavy paper rolls. This prevents over-running of the paper and consequent tangling of the web in other parts of the press.

*Continued on page 45*

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Wishing you further success with your interesting publication, we remain

Very truly yours,
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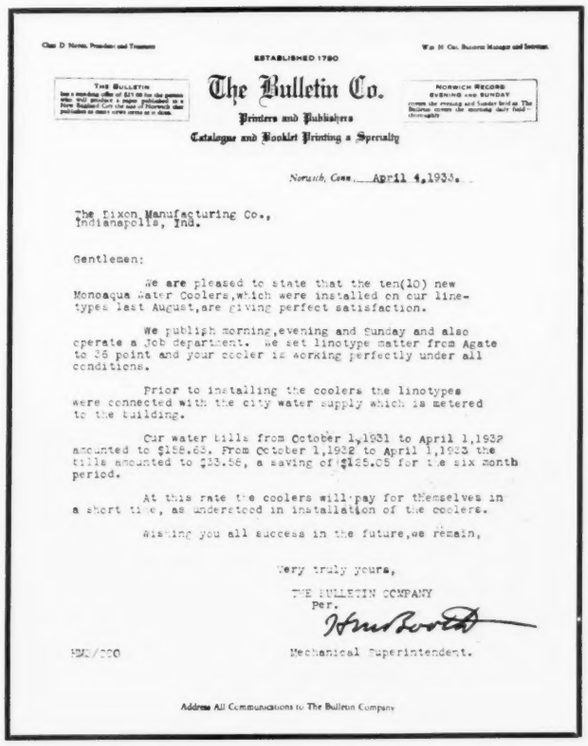
ED ROSENTHAL, *Production Manager.*

*Engineer. Laboratory, Berlin, Connecticut.



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Printers and Publishers

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We are pleased to state that the ten(10) new Monoaqua Water Coolers,which were installed on our linotypes last August,are giving perfect satisfaction.

We publish morning,evening and Sunday and also operate a Job department. We set linotype matter from Agate to 36 point and your cooler is working perfectly under all conditions.

Prior to installing the coolers the linotypes were connected with the city water supply which is metered to the building.

Our water bills from October 1,1931 to April 1,1932 amounted to $188.68. From October 1,1932 to April 1,1933 the bills amounted to $33.86, a saving of $125.05 for the six month period.

At this rate the coolers will pay for themselves in a short time, as understood in installation of the coolers.

Wishing you all success in the future,we remain,

Very truly yours,

THE BULLETIN COMPANY
Per.

Mechanical Superintendent.

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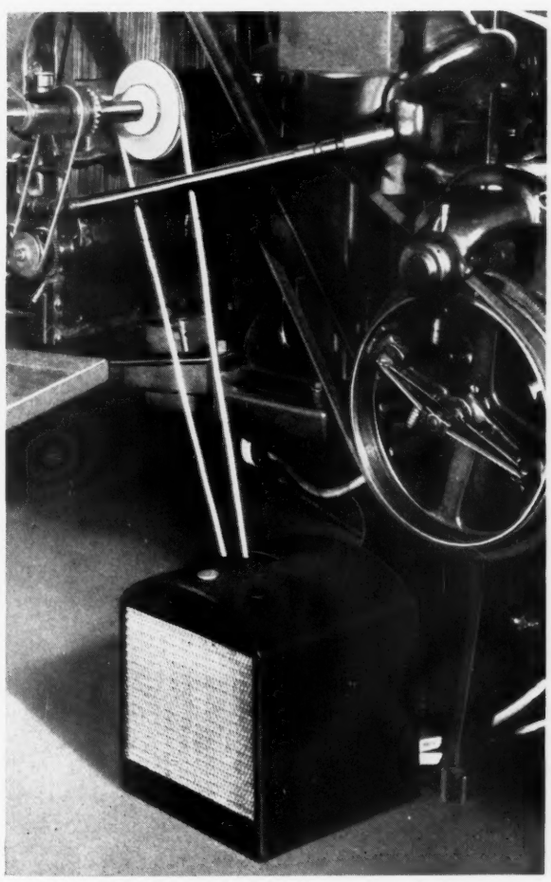
Address All Communications to The Bulletin Company



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The Monoaqua Cooler is easily applied to the Monotype and driven direct from the Monotype motor by a special pulley which is furnished.

The machine is constructed to give years of service if given proper attention.

**PRICES: Complete, Ready for installation. Linotype, $50.00; All-Purpose Linotype, $55.00; Monotype, $50.00.**

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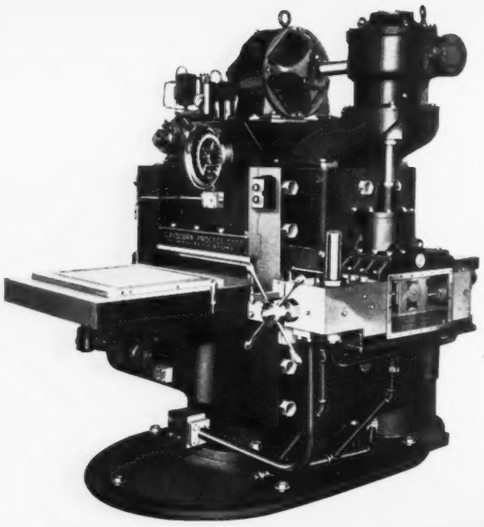
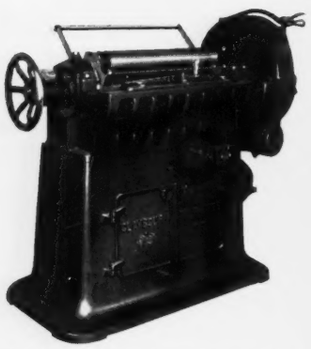
Is it good business for publishers and printers to make large investments in press equipment without considering the use of precision printing plates?

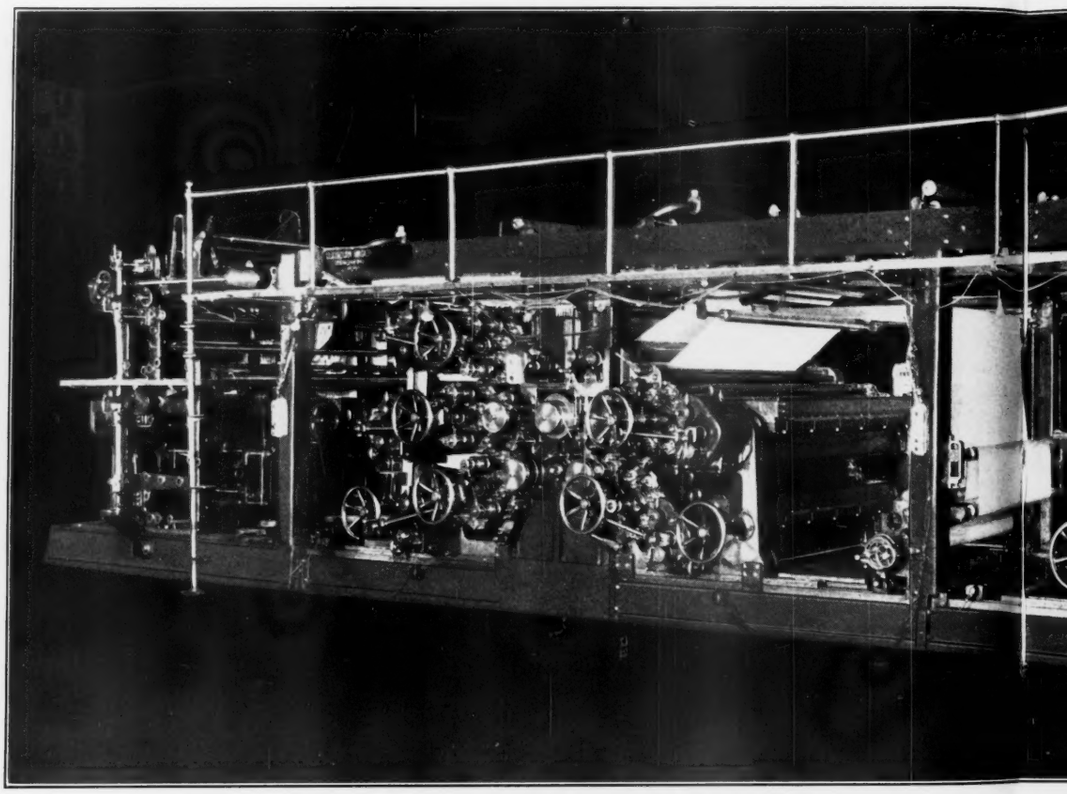
Results can be measured only by the quality of printing plates used, and costs are multiplied enormously through the use of inferior plates.



Claybourn Precision Combination Lead and Mat Moulding Press.

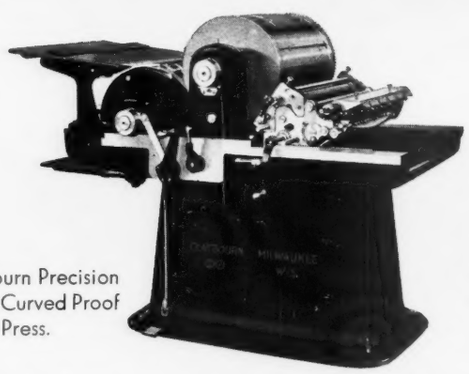


Claybourn Precision Curved Plate Finishing and Solidifying Machine.



THIS TEN-COLOR CLAYBOURN PRESS AND PLATE-MAKING

Claybourn Precision Four-Color Proof Press.



Claybourn Precision Power Curved Proof Press.

Claybourn Precision Curved Plate Routing Machine.

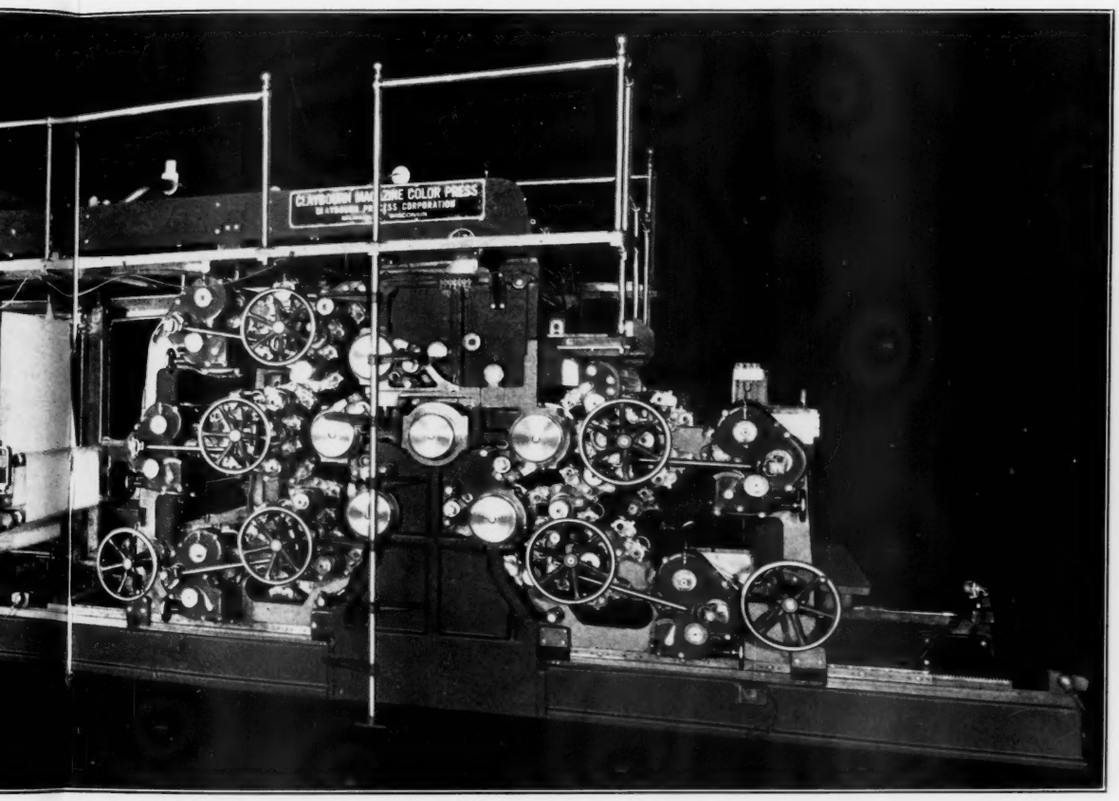
# CLAYBOURN C

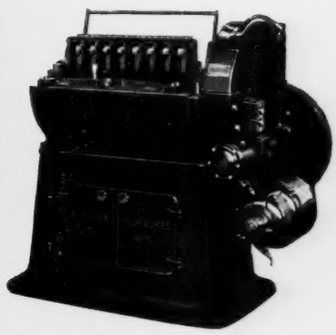
# THE PRESENT-DAY DEMAND . . .

Let us describe in detail and prove how you can reduce costs and get better results by availing yourself of precision plate-making equipment.

We manufacture color presses — both web and sheet feed, for every purpose, and specialize in precision plate-making machinery.

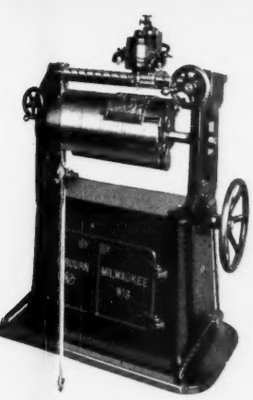
Claybourn Precision Combination Roughing and Shaving Machine.

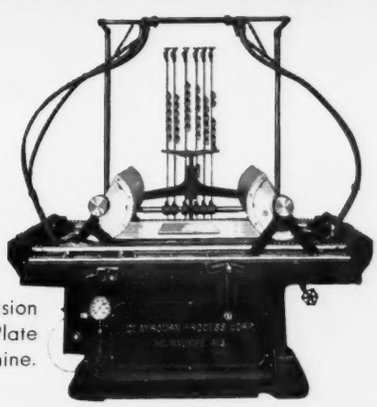




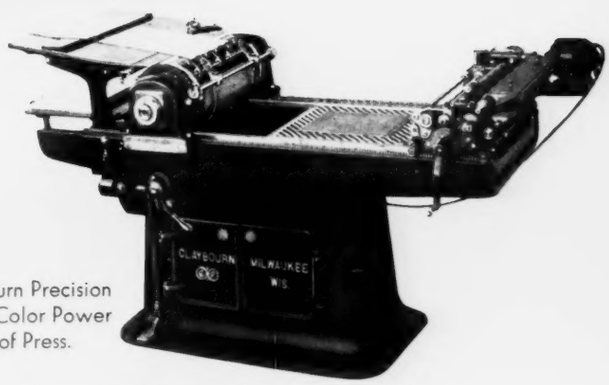
Claybourn Precision Double Head Curved Plate-Shaving Machine.

TE-MAKING MACHINERY IN OPERATION AT PITTSBURGH PRESS





Claybourn Precision Non-Stretch Plate Curving Machine.



Claybourn Precision Single-Color Power Proof Press.

# CORPORATION

MILWAUKEE
WISCONSIN

# May Printing Patents

Printed copies of patents are furnished by the Patent Office at 10 cents each. These may be obtained by addressing the Commissioner of Patents, Washington, D. C.

1,905,104. BEARING FOR INK ROLL DOCTORS. Arthur Dunlap Kerr, Holden, Mass., assignor to Rice, Barton & Fales, Incorporated, Worcester, Mass., a Corporation of Massachusetts. Filed Nov. 28, 1930. Serial No. 498,534. 3 Claims. (Cl. 308 — 6.)

1. A support for a doctor blade comprising a bracket stationarily mounted and having a hub thereon provided with an accurate screw-thread, a split collar surrounding and supported by the hub, a screw extending through the collar from one side to the other and meshing with the thread on the hub for adjusting the collar circumferentially, means on the screw for tightening the collar on the hub, and a roller supported by the collar serving as a bearing for the journal of the doctor.

1,905,687. FOLDING MECHANISM. Curtis S. Crafts, Oak Park, Ill., assignor to The Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 19, 1932. Serial No. 587,498. 11 Claims. (Cl. 93 — 93.)

1. A delivery mechanism for high speed folders including in combination a rotary fly into which folded products are delivered, a moving surface onto which the products are placed by the fly, means for holding the products within the fly during a portion of its revolution, means for displacing certain of the products as the products are delivered and means for moving the holding means to permit normal operation of the displacing means.

1,906,060. SAFETY ATTACHMENT FOR TYPOGRAPHICAL COMPOSING AND CASTING MACHINES. Warren G. Hamilton, Atlantic City, N. J., assignor of one-half to Joseph Ginsburg, Philadelphia, Pa.; Gertrude Hamilton administratrix of said Warren G. Hamilton, deceased. Filed Mar. 12, 1927. Serial No. 174,768. 5 Claims. (Cl. 199 — 52.)

1. In a typographical composing and casting machine including a matrix assembling elevator and a retractible rail for supporting the matrices, capable of being set to cause assembling of matrices at relatively different levels in the assembling elevator, and level regulating means including a manually operable pivot capable of being rotated into two different positions, to present lines of assembled matrices at relatively different levels to the casting mechanism, a safety device governed by the setting of both the retractible rail and the level regulating means, including eccentric means carried by the manually rotatable pivot, and a spring-retracted catch-slide operable by the eccentric against the force of the retracting spring thereof, the catch-slide being in operative alignment with the rail when the rail is in its inner position, and being out of alignment with the rail when the latter is in its retracted position, and being adapted to engage the rail, thereby to lock the matrix assembling elevator against upward movement when advanced towards the rail against the force of the retracting spring thereof, while the rail is in its inner position.

1,906,070. ELEVATOR STRUCTURE AND CONTROL FOR PRINTING PRESSES. Charles L. Low, Benton Harbor, Mich., assignor to Lisenby Manufacturing Company, Fresno, Calif., a Corporation. Original application filed Sept. 10, 1929, Serial No. 391,606. Divided and this application filed Sept. 2, 1930. Serial No. 479,133. 5 Claims. (Cl. 271 — 62.)

1. In a printing press, a paper elevator including fixed bars having a downward slope toward their rear ends, slides engaging the bars, a substantially horizontal pile supporting table supported by the slides, means operated in conjunction with the operation of the press for moving the slides along the bars and guide bars for the side of the pile fixed in parallel relation with and above the first named bars, and extending through a transverse slot in the table.

1,906,285. OFFSET PRINTING APPARATUS. Arlington W. Stephenson, San Francisco, Calif., assignor, by mesne assignments, to The Fax Company, San Francisco, Calif., a Corporation of California. Filed Mar. 30, 1931. Serial No. 526,219. 8 Claims. (Cl. 101 — 130.)

6. Offset printing apparatus comprising a flat offset impression plate, supports at opposite edges of the plate, means pivoting the plate to the supports for revolution of the plate, a revolvable clutch associated with one of the pivots, a rack bar slidably supported on one of the supports engaging the clutch, a spring arranged for sliding the rack bar, means for tensioning the spring to cause revolution of the clutch and plate, and means for stopping the plate at each half turn

1,906,332. PRINTING PRESS. Edgar Ellsworth Phinney, West Orange, N. J., assignor to Defiance Manufacturing Corporation, Orange, N. J., a Corporation of New York. Filed Nov. 1, 1932. Serial No. 640,642. 4 Claims. (Cl. 101 — 287.)

4. In a printing press having power operating means; the combination with a paper feed device, of means including a yieldable control element adjustable to effect a printing operation of the power means, a pivoted frame, a lever fulcrumed upon the frame and normally held thereby with its power arm lying in the path of movement of the paper and with its work arm adjacent the yieldable element, and means operable by the power means to rock the pivoted frame in a direction to carry the lever out of the path of movement of the paper and away from the yieldable element.

1,906,333. FEEDING MECHANISM. Claude L. Post, Chicago, Ill. Filed Jan. 15, 1930. Serial No. 420,917. 10 Claims. (Cl. 271 — 41.)

1. In a feeding device for feeding stock from a stack, the combination of rotatable means for successively feeding the stock from the stack, and means for elevating one portion of the stack out of the plane of rotation of the feeding means and relatively to another portion and thereby arrange a portion of the stack to allow the feeding means to engage the last mentioned portion of the stock to feed a sheet from the stack.

1,906,364. PRINTING PRESS. Martin W. Brueshaber, River Forest, and Hubert Lang, La Grange, Ill., assignors to The Goss Print ng Press Co., Chicago, Ill., a Corporation of Ill nois. Filed Aug. 20, 1930. Serial No. 476,562. 18 Claims. (Cl. 101 — 180.)

1. In a printing press, the combination of a press unit comprising two printing couples adapted to cooperate for printing a web complete on both faces, an auxiliary printing couple mounted in spaced relation to the press unit and operating independently thereof comprising an impression cylinder and a plate cylinder, and bearer rings carried by the impression cylinder and plate cylinder of the auxiliary couple for limiting the pressure between the cylinders and adjustable into and out of operative engagement with each other, the auxiliary printing couple being adapted for applying an additional color to a selected page portion of the web.

1,906,572. APPARATUS FOR MAKING PRINTING ROLLS. Albert C. Girdwoyn, Somerset, Mass., assignor to American Printing Company, Fall River, Mass., a Corporation of Massachusetts. Filed Apr. 20, 1931. Serial No. 531,357. 9 Claims (Cl. 101 — 33.)

1. A machine for producing printing rolls, which comprises a support for a flat member carrying a design, a curved member carrying a blanket, a carriage movable over the flat member, means on the carriage for supporting the curved member and operable to love the member into contact with the flat member, supports on the carriage for the journals of a printing roll, the supports being adjustable toward and away from the curved member to move the printing roll into and out of contact with the curved member, means for rotating the curved member and printing roll while they are in contact, and gravity operative means for carrying the peripheral velocity of the printing roll relative to that of the curved member while the two are in contact.

1,906,738. PRINTING ROLLER. Francis J. Carroll, New Bedford, Mass. Filed Dec. 14, 1931. Serial No. 580,970. 1 Claim. (Cl. 101 — 375.)

A printing roller, comprising an outer seamless shell of non-ferrous material adapted to have a design applied to its outer face, an inner sleeve arranged concentrically within the shell to rotatably receive a shafting, a filler of an inert material placed between the sleeve and shell under pressure, and discs secured to the shell and sleeve and embedded in the filler to reinforce the latter and to support the outer shell relative to the inner sleeve.

1,906,824. SAFETY PAPER. Burgess W. Smith, Rochester, N. Y., assignor to The Todd Company, Inc., Rochester, N. Y., a Corporation of New York. Filed Jan. 16, 1931. Serial No. 509,279. 10 Claims. (Cl. 283 — 9.)

1. A safety paper containing a substance characterized by two carbon rings or groups of carbon rings linked together with the diphenyl or equivalent linkage and having two hydroxyl radicals in the para position to that linkage.

1,906,875. PAPER CUTTING MACHINE. Joseph T. Wright, Cincinnati, Ohio, assignor, by mesne assignments, to The Harris-Seybold-Potter Company, Cleveland, Ohio, a Corporation of Delaware. Filed July 11, 1930. Serial No. 467,193. 3 Claims. (Cl. 164 — 12.)

1. In a machine, a columnar frame, a knee extending from and vertically slidable upon the frame, a work supporting table carried by the knee and horizontally slidable thereon, a tool-carrying headstock mounted upon the frame overhanging the table and having a revolving cutting tool and a stationary cutting tool, the cutting tools having their cutting edges at relatively different elevations, and means for automatically reciprocating the knee and table as a unit in a plurality of stages for presenting the work to and from the tools successively.

1,906,876. APPARATUS FOR MARKING OBJECTS. Alfred C. Christopherson, Chicago, Ill., assignor to Hacker Manufacturing Co., Chicago, Ill., a Corporation of Illinois. Filed July 26, 1928. Serial No. 295,362. 3 Claims. (Cl. 29 — 69.)

2. Apparatus for trimming printing plates including a bed for supporting a plate with adjacent edges of the plate overhanging the bed; a transparent gauge sheet swingable upon the bed on an axis in a plane fixed with respect to the bed to overlie the plate, the sheet being discontinued in the region of the overhanging edges; area defining indices on the sheet; means free from the gauge sheet for fixing the relation of the plate with respect to the bed; and means including a circular saw rotatable and movable relatively to the bed in a plane passing through one of the overhanging edges to cut a beveled edge on the plate.

1,906,877. PRINTING PLATE TRIMMING MACHINE. Henry R. Trotter, Chicago, Ill., assignor to Hacker Manufacturing Co., Chicago, Ill., a Corporation of Illinois. Filed July 26, 1928. Serial No. 295,398. 1 Claim. (Cl. 90 — 59.)

The combination with a work holding table; of two angularly related grooves in the table, the grooves merging in a right angle; feathers in the grooves extending lengthwise thereof and also merging; gauge blocks flush with the table adjustable in grooves and receiving the feathers; a spacer having two right angularly related branches receivable in the groove, the spacer being supported on feathers to be flush with table and the gauge blocks and abutting the gauge blocks; work engaging ribs on the gauge blocks engaging two respective sides of the work, the work resting on the spacer; and angularly related clamping means engaging the respective margins of the work opposite each gauge block.

1,906,992. TYPOGRAPHICAL MACHINE. Richard R. Mead, Queens Village, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed July 21, 1931. Serial No. 552,129. 8 Claims. (Cl. 199 — 44.)

1. A matrix magazine comprising a pair of side plates formed of an alloy of aluminum and grooved in their adjacent faces to form guiding channels for the matrices, and side bars fastened between and spacing the plates and formed of steel.

1,907,100. SLUG CASTING MACHINE. Frank C. Frolander, Elizabeth, N. J., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Aug. 26, 1931. Serial No. 559,384. 30 Claims. (Cl. 199 — 60.)

1. In or for a slug casting machine, a slug ejecting mechanism having an ejector proper permanently mounted in the machine, means for varying the effective width of the ejector, and separate means for varying the effective thickness of the ejector.

1,907,108. SLUG CASTING MACHINE. John H. Hilpman, Hollis, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed May 5, 1931. Serial No. 535,118. 4 Claims. (Cl. 199 — 60.)

1. In a typographical machine equipped with an ejector variable in width, the combination of a hand lever for changing the width of the ejector and presenting an operating handle a spring-pressed latch handle pivotally mounted on the lever handle and having a locking, detent adapted to hold the lever handle in its set position, and a spring-pressed safety lock also pivoted on the lever handle and normally held in engagement with the latch handle, the safety lock and the latch handle being arranged to be gripped and successively disengaged by the attendant in operating the hand lever.

1,907,122. TYPOGRAPHICAL COMPOSING MACHINE. John R. Rogers, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Aug. 26, 1931. Serial No. 559,434. 20 Claims. (Cl. 199 — 45.)

1. In or for a typographical composing machine, an assembler entrance comprising a fixed partitioned main section, and a plurality of partitioned throat sections facing in the same direction and, the throat sections being movable bodily with reference to the main section to bring a selected throat section into alinement with the main section.

1,907,137. MATRIX COMPOSING AND LINE CASTING MACHINE. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a Company of New York. Filed Sept. 11, 1931. Serial No. 562,207, and in Germany Sept. 13, 1930. 11 Claims. (Cl. 199 — 59.)

1. In a matrix composing and line casting machine, the combination with a casting mold adapted to cast blank slugs and the like, and of which one wall is movable for adjustment to effect the casting of slugs of different thickness, of a non-trimming slug guide through which pass the slugs ejected from the mold, comprising two walls of which one is adjustable bodily relatively to the other to vary the distance between them to correspond with the distance between the mold walls.

1,907,138. SLUG GALLEY FOR MATRIX COMPOSING AND LINE CASTING MACHINES. Christian Augustus Albrecht, Berlin, Germany, assignor to Mergenthaler Linotype Company, Brooklyn, N. Y., a Company of New York. Filed Sept. 11, 1931, Serial No. 562,208, and in Germany Sept. 13, 1930. 7 Claims. (Cl. 199 — 61.)

1. In a matrix composing and line-casting machine, the combination with the first elevator and the frame in which the elevator is vertically reciprocated, of a plurality of superposed galley shelves fixedly supported by the frame in a common vertical plane, guides on the frame, a pusher movable in the guides in parallel relationship to the shelves, and plungers fast to the pusher each adapted to engage slugs received on the respective galley shelf.

1,907,139. PRINTING PRESS. Harry V. Ball, Concord, Mass., assignor to R. Hoe & Co., Inc., New York, N. Y., a Corporation of New York. Filed Mar. 25, 1931. Serial No. 525,150. 2 Claims. (Cl. 101 — 228.)

1. In a web printing machine the combination with a supporting frame and an impression cylinder and a form cylinder journaled therein and adapted to have passed between them a web of paper or the like, of a shaft mounted in the supporting frame and bearing a plurality of sleeves rotatable thereon, each of the sleeves having an upwardly extending arm and a downwardly extending arm, a feeding roller the ends of which are journaled in the upwardly extending arms and adapted to have passed between it and the impression cylinder a web of paper or the like, a nut on each of the downwardly extending arms, and a rotatable screw journaled in the supporting frame and adapted to coact with each of the nuts so as to swing the downwardly extending arms and thereby adjustably locate the feeding roller with

*Continued on page 40*

# Are YOU
## Worth a Lot of Money?

*IF SO, what we have to say will not interest you. We have a little story of real roller economy to tell. It is not a price-cutting story either.*

FOUR years ago a medium-sized newspaper plant purchased a new press, and the eyes of all roller makers were focussed on the prospective purchaser of the roller equipment. Of course, rubber rollers were exploited as the most economical due to the fact they were not affected by climatic changes, and would not melt from heat caused through friction. We manufacture rubber rollers, and were in position to supply them for roller equipment on this press; but we had a better suggestion to make—our Duplex non-meltable rollers. After considerable debating, the order was placed for Duplex. That was four years ago. The initial cost of the Duplex rollers was half that of rubber rollers, and that cost was the only cost during the entire four years of continuous operation. Rubber rollers would have had to be reground in that time, adding materially to the roller cost. *That publisher saved a lot of money*, and it was a worthwhile saving. The same rollers are still running.

For roller equipment of very large metropolitan dailies we recommend our Star rubber rollers. For the average edition newspaper, rubber rollers are too expensive. We are prepared to prove our statements. Write us for our books on rollers and pamphlets on pastes and glues. Also our free "stick-to-it" puzzle.

# BINGHAM BROTHERS COMPANY

(FOUNDED 1849)

ROLLER MAKERS

N.A.P.R.M.

ROLLERS OF

RUBBER, NON-MELTABLE AND SEASONAL COMPOSITION, LEATHER, MOLLETON, MOLESKIN PLUSH.

ALSO STAR PASTES, GUMS, GLUES AND ADHESIVES

MACHINE CAST PRINTERS' ROLLERS · ESTABLISHED 1849 ·

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406 PEARL STREET

BALTIMORE
131 COLVIN STREET

ROCHESTER
980 HUDSON AVENUE

*Order From Nearest Plant*

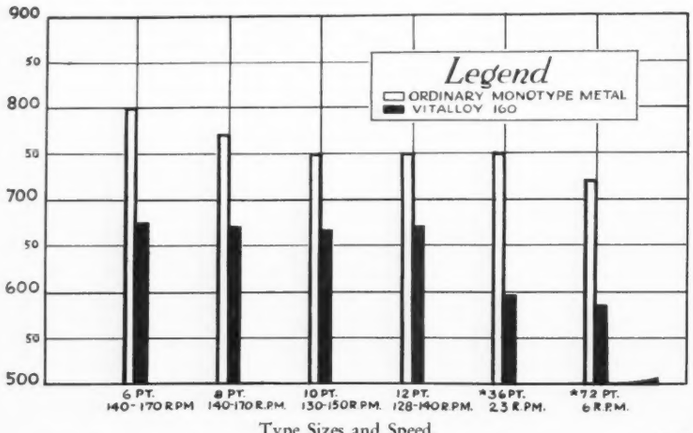
*The Service is Uniform*

# Casting Experience of Monotype Vitalloy 160

*By* WILSON S. YERGER*

IN AN attempt to secure a metal which would cast at lower temperature and give at the same time a more perfect printing face, a thorough and careful metallurgical study of our conventional Monotype metal was undertaken by Imperial's technical staff several years ago.

The maintenance of lower casting temperature is not only desirable in order to save fuel but also to minimize the wear on casting machines, particularly the wear of the molds and matrices.




Type Sizes and Speed.

*Casting Experience of Monotype Vitalloy 160 as Compared to Conventional Monotype Metal in Plant of the J. B. Savage Company, Cleveland, Ohio.*

*Produced on Giant Caster.

In studying the problem from an experimental and theoretical angle it was determined that the usual mixture of lead, tin and antimony as applied to Monotype machines was about all that could be done with these elements alone. The problem then resolved itself into research as to other possible elements which might be added to lead, tin and antimony to accomplish the desired results.

During this research a large number of elements were tested, with the result that about a dozen of them showed any possibility of being of service. The problem then became one of testing each of these elements in varying proportions to determine how large and small amounts affected the alloys.

In making these tests it was necessary to make up several hundred mixtures and then to study their behavior as to casting qualities, hardness and other physical properties as well as temperature and cooling characteristics.

During the course of this investigation it was found that whereas one element might affect the Monotype metal adversely by the use of two elements at the same time, the results were very much improved.

After many months of research and laboratory work the problem was narrowed down to a comparatively small number of mixtures which seemed to have the desired characteristics and it then became necessary to actually test these lots under practical operating conditions in a Monotype machine.

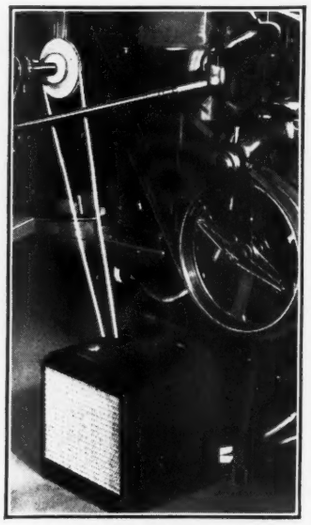
These tests were continued over a period of about a year, proving in practice the laboratory and theoretical conclusions. As the result of these tests a new metal has been evolved of different composition and having different properties.

This metal have been named Vitalloy 160.

Vitalloy 160 Monotype metal will cast a more perfect face than can be secured from our Monotype metal and at a temperature reduction of from 75 to 125 deg. F. In addition to this, the Monotype Vitalloy shows a hardness equal to special Monotype metal which contains approximately 3% more tin and 39% more antimony than our regular Monotype metal. Due to the low casting temperature and the cooling properties of this metal, it has been found that the rate of production on Monotype machines of sizes above 8 point can be increased approximately 20%. Much less gas or electricity is consumed, and the life of casting parts of the machine are greatly prolonged. The development of this new alloy met with many discouragements because of the time and money required to obtain accurate information of the many elements reviewed. Even after discovering the value of certain new elements in Monotype metal, the further study of the most favorable concentrations constituted a problem requiring a lengthy period of time.

*President, Imperial Type Metal Company, Philadelphia, Pa.

## The Monoaqua Cooler



Announcement has been made by the Dixon Company, 312 East Ohio St., Indianapolis, Ind., that the Mergenthaler Linotype Co. has on display at its factory at Brooklyn and various agencies throughout the country the Monoaqua Cooling System which is applicable to all models of Linotypes.

The Monoaqua Cooling System consists of a container approximately one foot square in area, suitably connected with flexible piping to the mold. The container holds 2 quarts of distilled water which is circulated by a noiseless pump and cooled by means of a fan-cooled radiator. In Linotype installations the mechanism is driven by a round belt connected to a split pulley on the intermediate driving shaft or from the motor armature shaft. It is said that the device can be installed in 10 minutes.

3000 IMPRESSIONS PER HOUR
2500 PER HOUR
2000

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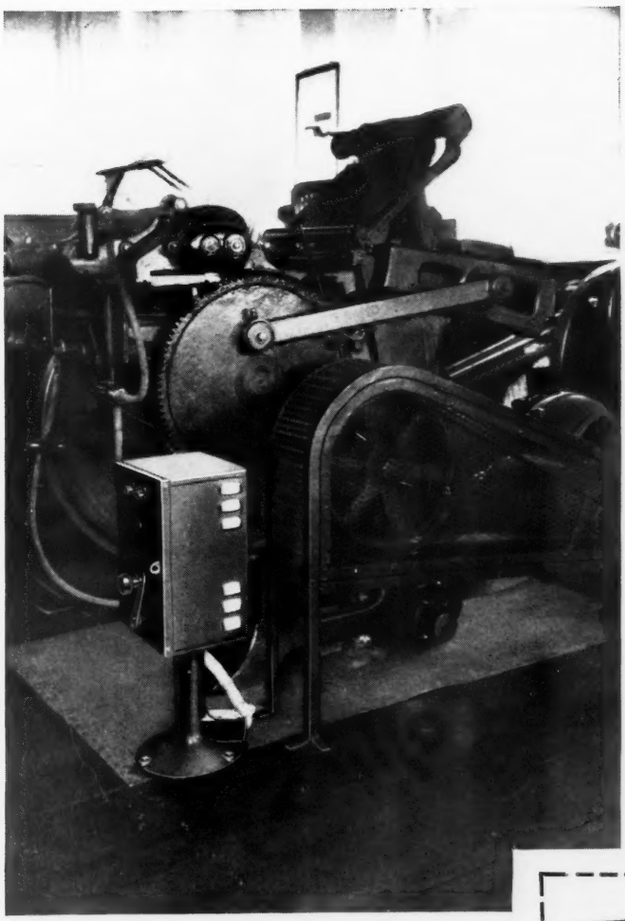
# NEW

## G-E PRE-SET SPEED CONTROL FOR JOB PRESSES



ITS operation is simple. Merely bring the press up to speed with the control rheostat—get the speed your experience tells you is right for the run.

Then, don't touch the rheostat handle again—unless, of course, you wish to change speed. Instead, stop and start at will by using a push button conveniently located on the front of the controller. The press will always return to exactly the speed at which you have set the control—no wasting time and temper in trying to duplicate press speeds for accurate register work, etc.

G-E pre-set speed control, for either a-c. or d-c. operation, is inexpensive. All apparatus is housed in a neat, compact, pedestal-mounted case. It is easily installed. Buy it "in a package" . . . install it in an hour or two at most . . . put it to work saving money for you the day you get it!

Would you like more information? If so, mail this coupon to the nearest G-E office, or to General Electric, Schenectady, N. Y.

301-131

GENERAL ELECTRIC

THIS SIMPLE CONTROL DOES THE TRICK

**TEAR OUT AND MAIL FOR COMPLETE INFORMATION**

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Please send me complete information on your new pre-set speed control.

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Have you written for complete information on Thrustor safety control for guillotine cutters? If not, a check mark here ( ) will bring the facts.

# Economies In Rubber Roller Upkeep

***Improvements Due to Research Have Made It Possible for Any Large User of Rubber Rollers to Grind Them Economically***

*By* JOHN H. SHEEHAN*

SINCE the introduction of rubber rollers for printing presses some ten years ago there has been a steady swing to their use, especially in newspaper printing plants and among the larger commercial printers. It is generally agreed that the use of rubber rollers provides certain advantages in newspaper work. One thing in connection with rubber rollers, however, has impeded their more rapid acceptance and has caused frowns of distress to gather on the brows of many mechanical superintendents. That thing has been the reconditioning—or grinding—of the rollers, a real maintenance cost problem.

*Rubber roller grinding lathe recently installed in the plant of the Jacksonville (Fla.) "Times-Union."*

### WHY ROLLERS MUST BE GROUND

It seems hardly necessary to explain that the swelling of the rubber roller, due to ink penetration and centrifugal force, makes it obligatory that the rollers be ground down to their normal diameters periodically. Quite a bit has already been written on this phase of the subject.

Some attention has been given to the problem of rubber roller grinding by the Printing Industries Division of the American Society of Mechanical Engineers and by the Mechanical Department of the A. N. P. A., but for the most part the deciding of correct shop practice has been left to the ingenuity of the individual mechanic and production manager who do not have the facilities for carrying on extensive experimental work.

Mechanical superintendents (and the publishers) have consequently been faced with the alternatives of sending the rollers outside for reconditioning, or of rigging up some method of their own for grinding the rollers in a lathe, within their own shops. On the other hand, improvised home-made methods of grinding have not generally proved satisfactory, because grinding rubber rollers *does present some problems*, and does require proper equipment.

### DEVELOPMENT OF PRIVATE PLANT GRINDING

What has been needed most then, has been the development of a quick, practical and economical method of grinding so that the roller servicing may be done within the printing plant.

Some of the improvised roller grinding methods developed have been successful, hence those plants are not in need of direction in maintenance methods. The results and findings set down here are for those seeking information on how the job can be done today.

### FIVE "RUBBER" COMMANDMENTS

Cooperative research between the manufacturers of rubber rollers and lathe manufacturers who had not previously given any serious consideration to the subject—greatly aided by the willing cooperation of several newspaper plants—has resulted in what may be called the establishing of some fundamental premises in connection with the subject. They provide the starting point for discussion.

Let's call them the five "rubber" commandments, as follows:

1. Rollers frequently reground provide better printing.
2. Frequent grinding is economical.
3. There is greater convenience in "grinding your own."
4. Form rollers should be rough and finished ground and polished.
5. Rollers must be ground concentric to journals.

Only two of these points will be covered by this article, namely, 4 and 5, as they cover the technical aspects of the case. The economic side will not be discussed. The *means* for carrying on this work, however, has been a subject of controversy.

Now, to put a smooth, accurate surface on a rubber vibrator or feeder roller requires grinding; a form roller requires both grinding and polishing.

*Continued on page 47*

*Technical Service Department, South Bend Lathe Works, South Bend, Ind.

# COLOR

## A TREND AGAINST THE TREND

WHILE THE COUNTRY'S 1932 CONSUMPTION OF NEWSPAPER BLACKS DECLINED, OUR SALES OF NEWSPAPER COLORS INCREASED SHARPLY.

**COLOR** IN NEWSPAPERS IS THE KEYNOTE OF THE FUTURE. AMERICA'S FINEST NEWSPAPER COLOR PRINTING IS PRODUCED WITH . . . . . :

MORRILL'S NEWS COLORS.

WE ARE READY --- ARE YOU?

## GEO · H · MORRILL · CO.

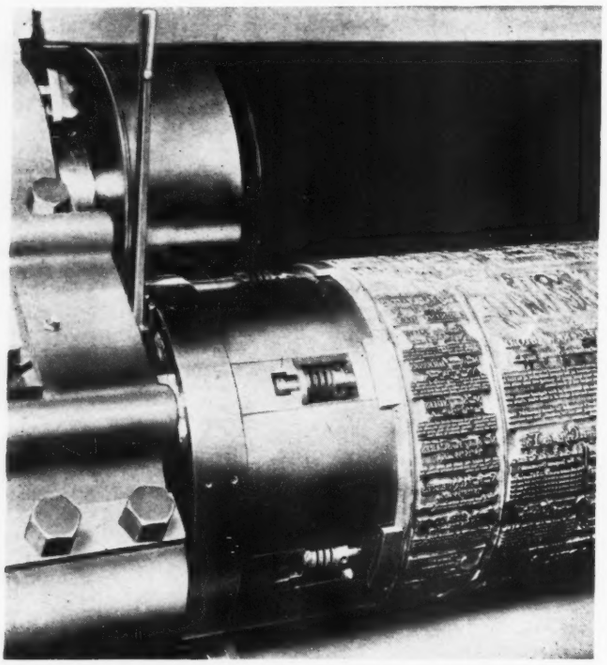
DIVISION
GENERAL PRINTING INK CORPORATION
100 SIXTH AVENUE
NEW YORK

**Send for Morrill's Newspaper Color Book**

# Latest Printing Equipment Mechanisms

### New Hoe Patented Instantaneous Plate Lock-Up

A new-design instantaneous Plate Lock-Up has just been announced by R. Hoe & Company, 138th St. and East River, New York, N. Y. This new Hoe Plate Lock-up is operated by a lever placed in a socket on the end of the cylinder which moves through a small angle around the cylinder. One motion in one direction fully locks the plate and one motion in the opposite direction fully unlocks it. The usual semi-circu-



*View of New Hoe Stereotype Plate Lock-up on Printing Press Cylinder.*

lar clamp is replaced by three clips, each of which independently engage the plate with full-pressure spring follow-up under all conditions.

Each plate clip extension at the end of the cylinder has a cam path. The cam paths are engaged by rollers carried on a segment which is moved around the cylinders by operation of the locking lever. This segment moves within an outer ring segment bolted directly on the end of the cylinder and which provides a solid abutment for the thrust of each of the clips.

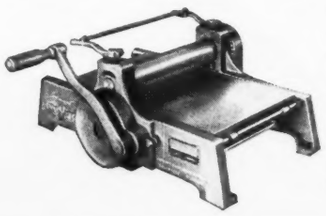
A spring is provided for each clip and is interposed between it and the cam. This spring provides a follow-up, maintaining the clip in positive full-pressure contact with the plate even though the clips may become embedded in the plate during a long run. These springs provide for normal variation in plate width without excessive variation in clamping pressure. An adjustment is provided on each clip so as to facilitate skewing the plates slightly as may be required for color printing or for increasing or decreasing the pressure to compensate for extensive variation in plate width. The entire mechanism lends itself readily to adjustment for change in plate size, either when changing columns or ems, margins, or from wet to dry mats, etc.

Before placing the device on the market, it was thoroughly tested in Hoe's laboratory where it was subjected to operation equivalent to over 15 years' service in the field without showing any signs of wear.

Safety to operators is provided for by an interlock which prevents the lock-up lever being removed until the plate is fully locked and the safety lock keeps the plate fully locked until this lever is inserted again.

### Hammond Matmakir

The MatMakir, which is manufactured by the Hammond Machinery Builders, Inc., Kalamazoo, Mich., is intended to mould stereotype mats to release standing type forms, to make duplicate casts of the same form in order to run "several up" on the press and to make large capital letters for hand composition. In addition the mats produced may be filed for future use.



The MatMakir table is 14 in. by 24 in. and will accommodate any size chase up to and including 13 in. wide. The form or plate to be matted is placed on the table which moves back and forth under the impression cylinder by means of a gearing arrangement when the crank is turned. The 3-in. diam. roller is made of special high carbon steel and produces a pressure of about one ton to the square inch.

The steel cylinder gears and rack bars have machine-cut teeth. The frame is fabricated of semi-steel.

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### Form-O-Scorch for Commercial Work

According to the American Publishers' Supply, West Lynn, Mass., the ever-increasing use of stereotypes for printing labels, small posters and similar printed matter in large quanties in two or more colors has developed a need for equipment to make properly formed and scorched mats. To meet this demand, the improved Form-O-Scorch machine has been adapted to the purpose so that by merely changing the size and curvature of the heating drum mats may be produced to meet any particular requirement.

A number of machines are already in use on which the drums run as small as 10½ in. in diam, and other sizes can be made to fit standard machines up to newspaper page size.

Outstanding features of the Form-O-Scorch, it is claimed, are: Automatic control, elimination of warping and buckling, remolds and recasts and the proper scorching and forming of mats in the minimum time of 45 seconds when desired.

# WHAT
# is the value of experience?

Forty Years of experience working with Rubber is the background of the Soft, Resilient Rubber Inking Roller which has been selected by the concerns who are now handling its distribution.

These concerns, some of whom have been consulting experts to Printing Ink Roller users for more than eighty years.

These long established concerns, with a wonderful background of service, after strict investigation and severe practical tests, have selected the Manhattan Rubber Inking Roller as being the best made.

If you have not already tried the Manhattan Rubber Inking Roller—it will pay you to investigate. If you need Rubber Rollers, these concerns will advise you without charge.

DISTRIBUTORS FOR

## MANHATTAN RUBBER INKING ROLLERS

**Sam'l Bingham's Son Mfg. Co.**
Chicago, Illinois
Cleveland, Ohio
Des Moines, Iowa
Kalamazoo, Michigan
Nashville, Tennessee
Atlanta, Georgia
Detroit, Michigan
Kansas City, Missouri
Pittsburgh, Pennsylvania
Dallas, Texas
Indianapolis, Indiana
Minneapolis, Minnesota
St. Louis, Missouri
Springfield, Ohio
Cincinnati, Ohio

**Godfrey Roller Company**
211-213-215 North Camac Street
Philadelphia, Pa.

**O. J. Maigne Company**
356 Pearl Street, New York City
Washington, D. C.
Philadelphia, Pa.

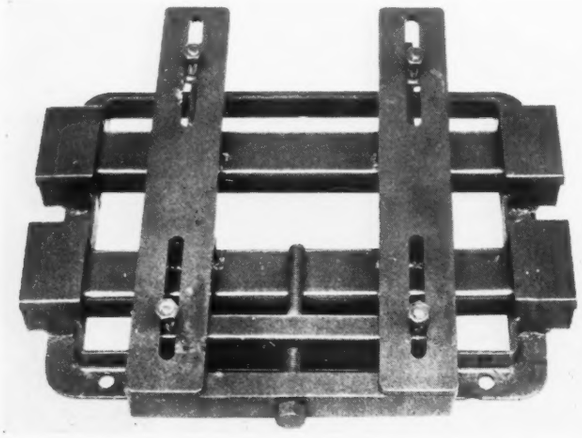
**Frank A. Reppenhagen**
339 Oak Street
Buffalo, N. Y.

**Wild & Stevens, Inc.**
5 Purchase Street
Boston, Mass.

**THE MANHATTAN RUBBER MFG. DIVISION**
OF RAYBESTOS-MANHATTAN, INC.
MECHANICAL RUBBER GOODS
PASSAIC, N. J.

### New G. E. Sound-Isolating Base for Motors

A new motor base with scientifically designed sound-isolating features has been developed by the General Electric Company, Schenectady, N. Y., after an extensive study on the part of its research laboratory. Floating members are suspended on specially developed isolating material, so enclosed and mounted that long life and freedom from damage result. The motor is mounted as on a standard sliding base, and belt tension and motor alignment are maintained in the ordinary manner.



*Sound Insulating Base for General Electric Wound-Rotor Induction Motor.*

In addition to its sound-isolating qualities, the new base offers the following advantages for facilitating installation and contributing to successful operation:

1. Adjusting screw moves motor for belt adjustment.
2. Bases are installed as a unit. No more attention to adjustment is required than is necessary for standard sliding bases.
3. The stiffness of the sound-isolating material is sufficient to maintain motor alignment for any reasonable belt tension.
4. Guide washers in machined grooves are used with the belt-adjusting feature to maintain motor alignment.

General Electric sound-insolating bases are scientifically designed for use with each particular motor for which they are recommended. They are equally effective at any motor speed between 100 per cent and 66 per cent of normal, and, in some cases, they are effective down to 50 per cent of normal speed. The bases are available for the following motor ratings and speeds:

Polyphase induction motors of 1 to 50 h.p., 900 r.p.m.; ¾ to 30 h. p., 1200 r.p.m.; 1 to 3 h.p., 1800 r.p.m.

Single-phase motors of ½ to 2 h.p., 900 r.p.m.; ½ to 2 h.p., 1200 r.p.m; 1 to 5 h.p., 1800 r.p.m.

### Foster Assembler Slide

A new-style assembler slide which is designed for application to outstanding Intertypes has been announced by officials of the Linotype Parts Corporation, 203 LaFayette St., New York, New York.

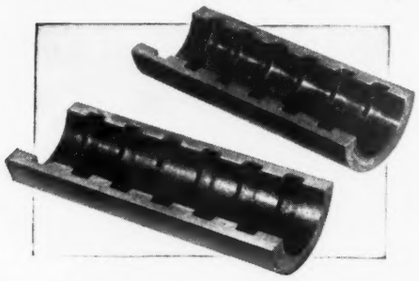
The slide consists of a single bar upon which are mounted an adjustable clamp, indicator rod and indicating scale for the em measure. The clamp pawls are made of hardened steel, 3/32 in. wide, which fit into deep slots (spaced 1 em apart) milled in the bar. One pawl is used to determine em measures and the other determines the half-em measure settings. A special bracket is furished to support the slide. Attached to the bracket is a releasing lever for overset matrix lines. The lever also serves as a limit stop for length of matrix lines. A case-hardened collar is provided to determine the amount of matrices which may be assembled in a line in relation to the vise jaws. This forms a part of the indicating rod and is held in position by a lock nut which is tightened after the adjustment has been made.

A knob is attached at the right end of the slide bar for convenience of the operator when adjusting the delivery slide long finger. A fibre bar return stop, mounted on a steel plate, is provided. This fastens under the face plate screw head. All wearing surfaces are hardened, including that portion of the slide bar which is gripped by the brake blocks. The etched brass em scale is mounted in a recess. The figures and graduations stand out in relief against a black background.

### Gatke Moulded Non-Metallic Bearings

Gatke bearings are now available in a complete line for all general machinery uses, according to an announcement of the Gatke Corporation, 228 N. LaSalle St., Chicago, Ill.

Gatke non-metallic bearings are composed of a special textile base impregnated with synthetic resins, moulded under high pressures, and manufactured in all shapes and sizes. They are moulded of three basically different materials for various services, known as Gatke Hydrotex, Gatke Lubritex and Gatke Grafitex.

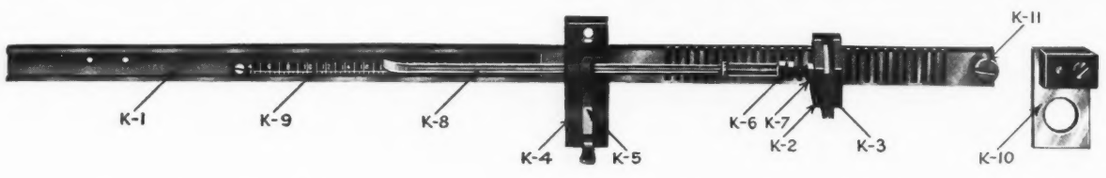


The Gatke bearings will replace any bearing or bushing. They can be moulded to dimension with inserts if required. No machining is necessary. Characteristics do not change with age, and no deterioration occurs if machinery is idle or bearings are neglected for long periods. They have a low coefficient of friction and are not affected by ordinary acids, chemicals, solvents, or salt water, or softened by oils or greases.

Hydrotex, Lubritex, and Grafitex bearings are already furnished for journal diameters from ⅛ in. to 24 in. and can be made to still larger sizes.

### Operation Control for Humidification Systems

A new style open contact low voltage Humitorl for controlling the operation of any equipment that humidifies or dehumidifies where the open spark of an open contact control is permissible, is being made by Lewis Air Conditioners, Inc., Minneapolis, Minn.




It is designed for use with transformer in low voltage air conditioning systems up to 25 volts. In such systems, direct application can be made to any equipment drawing 25 watts or less. Like most low voltage instruments, the Humitrol may be used to control the operation of equipment drawing more than 25 watts by the use of transformer-relay combination. Open contact Humitrols can be set to control humidity at any desired per cent up to 100%. "In" and "out" operat-

1931
1932
Herald Tribune
Bank Ignored Warnings, Says Broderick as Stetser Accuses Him of Neglect
The Hartford Courant
New Lindbergh Kidnaping Clue in Third Ransom Note Contents Are Kept Secret

*Again!*

## Huber Ink Contributes to Winning the Ayer Award

The newspapers which won The Ayer Award in both 1931 and 1932 are printed with Huber News Black. Both of these publications have been consistent users of Huber Inks for many years.

Freedom from Grit, Complete Dispersion, Less Flying, Greater Uniformity, Less Penetration, No Smut, Least Odor and Greater Coverage — these are the outstanding characteristics of Huber News Black which have made it the preferred choice of many of the country's leading newspapers, and which are the result of absolute control of every step in production both of raw materials and finished product.

**J. M. HUBER, INC., NEW YORK, N. Y.**

Boston · Cleveland · Chicago · Twin Cities · Des Moines · Omaha · St. Louis · Washington

NEWS · GRAVURE — HUBER INKS — COMIC · MAGAZINE

## *And in* 1933 *an* ALL-TIME RECORD

*The 1933 Winners of* FIRST, SECOND *and* THIRD PLACES *Are Also Users of* HUBER TONED NEWS BLACK

"All the News That's Fit to Print."
The New York Times.
LATE CITY EDITION
NEW YORK, SATURDAY, MARCH
NEW YORK
Herald Tribune
EXTRA LATE CITY EDITION
SATURDAY, MARCH 4, 1933
The Cleveland Press
SPORTS
MARKETS CLOSED
PRICE THREE CENTS
Local Forecast—Continued cloudy. Temperatures near or slightly below freezing tonight.
ISSUE NO. 17406—IN TWO SECTIONS—SECTION ONE.
CLEVELAND, SATURDAY, MARCH 4, 1933

**Many other leading newspapers recognize that Huber Technical Control assures Highest Quality and ultimate Economy.**

## J. M. HUBER, INC., NEW YORK, N. Y.

Boston · Cleveland · Chicago · Twin Cities · Des Moines · Omaha · St. Louis · Washington

**NEWS • GRAVURE • COMIC • MAGAZINE INKS**

# Uniform Certifieds

**No. 4 of a Series of Whys and Wherefores of Certified Dry Mats**

Shrinkage in dry mats is an inherent characteristic which has been utilized as an asset. In a sense it is an evil which has been turned into a blessing.

With Certified Dry Mats shrinkage is uniform and when they are constantly handled this shrinkage is under the control of the stereotyper. For instance, the shrinkage in column length is just one-half the shrinkage in column width. It is well to bear this characteristic in mind because it has a vital bearing on the amount of extra work imposed upon the composing room in order to overcome objections to shrinkage on the part of advertisers.

This point is of particular interest at the present time because of the tendency toward the use of narrower rolls of newsprint. For example, if an 8-column, 12 em paper, with 6 point rules, is printed on 68-inch rolls, shrinkage of one-half an inch in the width of the mat is necessary. With such a shrinkage, when Certified Dry Mats are used, the corresponding shrinkage in column length will be just one-quarter of an inch, or approximately 3½ agate lines. (Other makes of dry mats under similar conditions would shrink close up to one-half an inch in column length as well as in column width.)

Since with Certified Dry Mats this shrinkage is uniform and under the control of the stereotyper, the composing room by setting the composition "strong" to the required extent, eliminates all friction with advertisers over linage shortage.

Certifieds help create and maintain harmony between composing room, stereotype foundry, and press room, because their use insures the production of well-printed papers day in and day out on schedule time.

This is your invitation to try some Certifieds in your own foundry under your own working conditions so that you may see for yourself to what extent Certified quality can benefit your organization.

We are gladly at your service.

**Certified Dry Mat Corporation,**
**342 Madison Ave.**
**New York, N. Y.**

(Date) _____

Gentlemen:

You may enter our order for prompt shipment of _____ case(s) of Certified Dry Mats as checked below:

Check ☐ 15c Ace mats f.o.b. West Groton, Mass.

Check ☐ 12c Certifieds f.o.b. West Groton, Mass.
(Cases contain 500 mats, 20″ x 24″)

▼ ▼ ▼

Please send samples of ☐ 15c Ace Mats ☐ 12c Certifieds free of charge and without obligation.

Please be sure to check specifications.

THICKNESS
☐ .024/5″
☐ .027/8″
☐ .031/2″
☐ .035/6″

SHRINKAGE
(Mill Moistened)
☐ ¼″
☐ ⅜″
☐ ½″
☐ Unconditioned Special Size

Name _____ Address _____

By _____ Title _____


ing range can be adjusted to the extreme closeness of a 1% differential.

Where a spark-proof switch is necessary, the Mercury Tube Humitrol may be used.

The open contact Humitrol is provided with iridio-platinum contacts. It is equipped with double contacts and red, white and blue terminal posts for use with either "two-wire" or "three-wire" systems. On a two-wire system, it can be used for controlling either humidification or dehumidification, or to control both operations as a three-wire instrument.

The actuating element is of the ribbon type. The manufacturer claims this element has proved its reliability and accuracy over a period of years. Over all dimensions of Humitrol are: Width, 2⅞ in.; length, 7⅞ in., and depth, 1¾ in.

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**Installs Optotest System of Measurements**

Precision testing instruments called Optotests have been recently installed in the matrix manufacturing department of Intertype Corporation. These new instruments are capable of measuring the face depth of a matrix to within the infinitesimal limit of one one-hundred thousandths of an inch.

A part of this precision equipment includes a special indicating micrometer which indicates the setwise accuracy of a matrix to one ten-thousandth of an inch.

This system of mechanical measurements eliminates the human element altogether and thus assures unvarying accuracy in the manufacture of the Intertype wide tooth matrix.

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## Economy, Coordination Color Work, Roll Changers

*(Continued from page 16)*

ments in the research laboratory of the Westinghouse Company, will be given in the Blue Room, on the 17th floor of the William Penn Hotel, at 8 p. m., Tuesday, June 6.

WEDNESDAY, 9:30 A. M.

Chairman—Harry B. Adsit, Prod. Mgr., Pittsburgh *Post-Gazette.*
*"Economics in the Press Room."* Edward J. Duffy, Mech. Supt., New York *Daily News.*
*Discussion.*
*"Newsprint Waste Reduction."* F. J. Meissner, Traffic Manager, Detroit *News;* T. A. Corcoran, Purchasing Agent, Louisville *Courier-Journal.*
*Discussion.*
*Pressroom Topics.*

WEDNESDAY, 8:00 P. M.

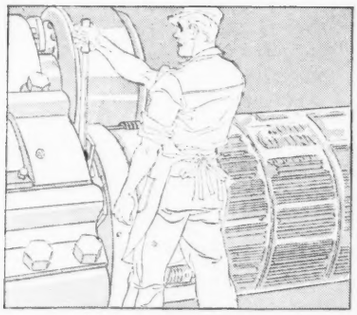
Chairman—Frank C. Palmer, Stereotype Supt., *Jersey Journal.*
*"Economics in the Stereotype Department."* George H. Fuller, Stereotype Supt., Cleveland *Press.*
*Discussion.*
*"Dry Mat Dimensions and Specifications."* Report by W. E. Wines.
*Discussion.*
*Stereotype Topics.*
*Report on "Study of Ink and Paper by A. N. P. A. in Cooperation with G. P. O."* B. L. Wehmhoff, Technical Director, Government Printing Office.
*Discussion.*

THURSDAY, 9:30 A. M.

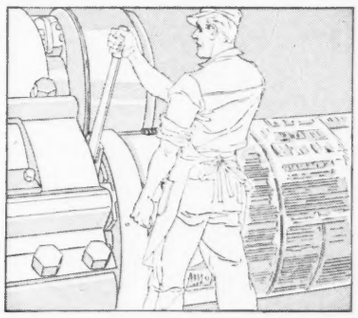
Chairman—John W. Park, Prod. Mgr., Chicago *Tribune.*
*"Color in Newspaper Advertising."* Carl W. Jones, Publisher, Minneapolis *Journal;* V. Winfield Challenger, Mgr., Printing Dept. N. W. Ayer & Son.
*Discussion.*
*"Joint Committee on Newspaper Printing."* Dwight L. Monaco, Production Mgr., Gardner Advertising Company.

THURSDAY, 1:30 P. M.

Chairman—S. H. Kauffmann, Asst. Bus. Mgr., Washington *Star.*
*"High Speed Roll Changers."*
Kohler Brothers, David G. Bernard.
R. Hoe & Company, Harry V. Ball, Vice President.
Wood Newspaper Machinery Corp., Oscar Roesen, Vice President.
Walter Scott & Co., Carl Drange, Chief Engineer.
Cline Electric Mfg. Co., A. J. Cline, President.
The Monomelt Co., W. E. Conklin, Vice President.



# *Slip in* THE BAR



# *Pull*...and the plate *is Locked!*

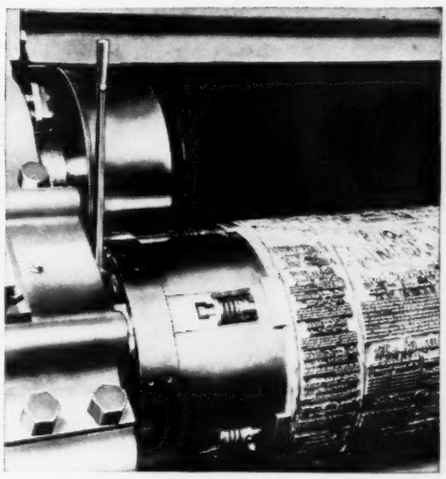
## *with the new* HOE *Instantaneous Plate Lock-up*

IT'S AS simple as ABC—and the speed of operation is unequalled. One pull and the plates are securely locked—one push and they are unlocked.

There is positive, direct, independent pressure behind each clip with spring follow-up which takes care of any variation in plate width and retains the clip in positive full-pressure contact with the plate under all conditions. The pressure of the clips may be increased or decreased, and the clips may be adjusted for plate variations and color work, all without removing the plates.

As a positive protection against unlocked plates, Hoe has designed the Instantaneous Lock-up so that the locking bar can be removed only when the clamp is fully locked.

This Hoe contribution is *fast, simple* and *safe*. It is easy to install on existing newspaper presses, without removing the cylinders from the machine. Full information is yours for the asking. Write us today.



*See the Demonstration*

of the Hoe Instantaneous Lock-up, and semi-automatic high speed paster and automatic tension at the mechanical conference at Pittsburgh.

IRVING TRUST COMPANY . . . RECEIVER IN EQUITY FOR

# R. HOE & Co., Inc.

• *General Offices* •

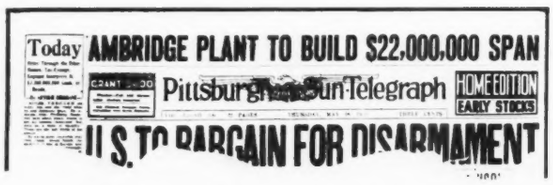
*138th St. and East River*

• *New York City* •

BOSTON SAN FRANCISCO CHICAGO

# In Pittsburgh— Wood Dry Mats

NEWSPAPERS in Pittsburgh are relying upon Wood Dry Mats today because over a period of years they have given the best all 'round results.




*The Sun-Telegraph—since 1927*

*The Press—since 1928*

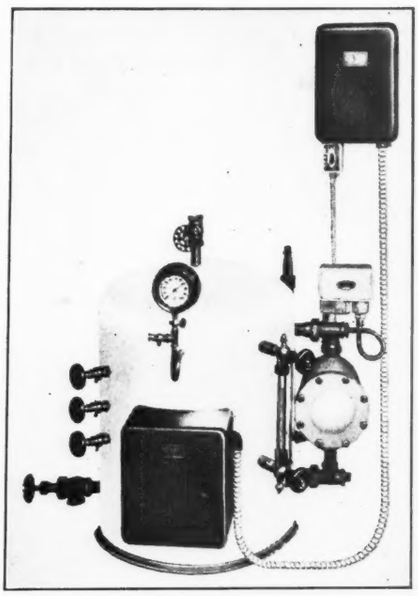
*The Post-Gazette—since 1930*

# WOOD

**FLONG CORPORATION**
**HOOSICK FALLS, N.Y.**


### Small Steam Boilers for Printing Trades

The Commonwealth Electric and Manufacturing Co., 83-105 Boston St., Boston, Mass., has brought out a line of small steam boilers, electrically heated, in capacities from one-fifth up to eight and three-quarters boiler h.p. (2 to 90 kilowatt). In the printing trades these boiler applications may be utilized in connection with equipment employed in electrotype plate bending rolls, matrix tables, rotogravure process and stereotype tables.



The field of application includes installations where main boiler plants must be run at low load to deliver process steam outside the normal heating season, where small amounts of steam are needed at extra high pressure, where process steam is required infrequently at points distant from the main boiler and where explosive atmospheres debar flame heating.

Several standard models are available, ranging from 1 to 200 lbs. operating pressure at voltages of 110-125 and 220-250. The welded seamless steel shell boilers conform to the A. S. M. E. and Massachusetts codes.

Complete standard equipment includes General Electric Helicoil, full-immersion heating unit; three-heat control snap-switch mounted on standard outlet box; full 85% Magnesia heat-insulation with finished steel jacket; brass trimmings including water gauge, steam pressure gauge, A. S. M. E. safety valve, blow-down valve, steam supply valve, city water filling valve, funnel for hand filling and condensate return connection for closed systems.

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## May Printing Patents

*(Continued from page 28)*

reference to the impression cylinder: the point of contact of the feeding roller and the impression cylinder being at a point on the periphery of the impression cylinder at a substantial distance away from the point of contact of the impression cylinder with the form cylinder.

1,907,234. MACHINE FOR PREPARATION OF PRINTER'S COPY. Constantine A. Belash, Boston, Mass. Filed Oct. 26, 1931. Serial No. 571,151. 2 Claims. (Cl. 197 — 187.)

1. In a typewriter having bars adapted to be actuated by the character and shift keys, the combination of means for producing a typed page corresponding to a page of predetermined size to be printed with a predetermined type comprising an indicator including a movable pointer, a movable rod extending transversely of the bars, a plurality of members representative of the small and large characters carried by the rod and adapted to move the same, the members representative of the small characters being positioned in the path of movement of the corresponding character bars and adjacent the corresponding large character representatives, means including a cam carried by the shift key for moving a large character representative in the longitudinal directions of the rod into the path of movement of the corresponding character bar, and operative connections between the rod and movable pointer for causing the latter to move progressively in one direction as the former is moved successively by the character bars.

1,907,368. PLATE CYLINDER FOR OFFSET PRINTING MACHINES. Walter Rossger, Heidenau, Germany, assignor to Rockstroh-Werke Aktien-Gesellschaft, Heidenau Germany. Filed Oct. 29, 1931, Serial No. 571,921, and in Germany Aug 2, 1930. 2 Claims. (Cl. 101 — 247.)

1. A plate cylinder for a continuous offset sheet printing machine comprising a plate covering more than half the circumference of the cylinder, means for tensioning the plate over the cylinder, a segmental ink distributing table spanning the space between the two ends of the plate, means for removably securing the ink table to a support forming part of the cylinder and means for stopping rotation of the cylinder when the table is out of place.

1,907,401. KNIFE WIPER ATTACHMENT FOR TYPESETTING MACHINES. Karl Engel, New York, N. Y. Filed May 10, 1932. Serial No. 610,444. 2 Claims. (Cl. 199 — 62.)

1. An attachment including a resilient arm having an apertured end adapted for anchorage to the lower mold banking block by the screws of the knife wiper bar plate and an anti-friction roller carried by the other end of the arm for turning movement on an axis transverse the length of the plate and parallel to the width of the plate and a knife wiper bar plate including a depending offset lug and a tension adjusting screw threaded therethrough for engagement with the spring arm to regulate the tension thereof.

1,907,452. STOP-CYLINDER PRINTING MACHINE. Georg Spiess, Leipzig, Germany. Filed Nov. 28, 1931, Serial No. 577,792, and in Germany Apr. 22, 1931. 13 Claims. (Cl. 101 — 276.)

1. In a stop-cylinder printing machine having front sheet delivery, the combination of a stationary feed table; means for feeding sheets from the feed table reciprocating substantially rectilineally; an impression cylinder to which sheets are fed by the feeding means; a delivery conveyer receiving sheets from the impression cylinder; and means for delivering sheets from the impression cylinder to the conveyer reciprocating between the cylinder and conveyer and moving in a path intersecting the path of motion of the feeding means.

1,907,588. STEREOTYPE PLATE SHAVING MACHINE. Carl A. Rupp, Los Angeles Calif., assignor to Commercial Iron Works of Los Angeles, Los Angeles, Calif., a Corporation of California. Filed Feb. 26, 1929. Serial No. 342,693. 14 Claims. (Cl. 90 — 26.)

1. A stereotype plate shaving machine comprising in combination a supporting structure having two closure ends with an arcuate bed plate connecting such ends, there being a concave slot in one end adjacent one end of the plate, an inverted arcuate base plate slidably mounted on the bed plate, a slidable guide track outside of the bed plate, an element sliding on the track and engaging the outer end of the base plate, the base plate being adapted to support a concave stereotype plate insertable and removable through the slot, a shaft journaled in the ends of the structure and having cutting blades to operate on the interior of the stereotype plate.

14. A stereotype plate shaving machine comprising in combination a supporting structure having a forward and a rearward end each having a circular opening, a disk removably mounted in each opening, the forward disk having an inverted arcuate slot, a concave base plate to support a stereotype plate, an exterior supporting and guiding means therefor, the base plate with the stereotype plate being slidable longitudinally through the slot, a cutter shaft having cutters rotatably mounted in the disks, an enclosing hood connecting the two ends forming an enclosure for the stereotype plate and the cutters, a power means to intermittently actuate the cutters, the power means including a power source at the rear end of the machine and a drive connection therefrom to the cutter shaft and a clutch for interconnecting the power means and the cutter shaft having a control device at the front end of the supporting structure, the control device being operated across the arcuate slot.

1,907,816. RELIEF ENGRAVING. Walter Howey, New York, N. Y. Filed Oct. 20, 1930. Serial No. 490,105. 7 Claims. (Cl. 95 — 5.6.)

1. The process of producing a replica of a screen interpreted pictorial subject for relief printing, which consists in coating a transparent support with a sensitive material capable of being insolubilized under the action of light, in subjecting the coating to a source of light through a transparency having variable sized opaque and inverse transparent areas whose characteristics vary in accordance with the lights and shades of a pictorial subject the transparency being in contact with the transparent support whereby the areas of the coating opposite the transparent areas become hardened, and the areas opposite the opaque areas remain soluble, in removing the unhardened portions by means of a suitable solvent applied to the face of the coating, in drying the remaining portions, in taking an impression therefrom, and in subsequently transplating the impression into a printing plate.

1,907,846. SUPPORT FOR PRINTING PLATES AND THE LIKE. John F. Mandernack, Chicago, Ill. Filed Apr. 13, 1931. Serial No. 529,635. 5 Claims. (Cl. 81 — 4.)

1. A printing plate support, comprising a yoke having a pair of upstanding spaced opposed arms, a rod extending rotatably journaled in the upper ends of the arms, plate-clamping means slidably mounted on the rod and rotatable therewith, means to lock the rod against rotation, a support for the yoke, yoke being mounted rotatable on the support.

1,908,094. FEEDER FOR PRINTING PRESSES. Thomas J. Williams, Camden, N. Y.

1,908,121. WEB ROLL SUPPORTING MECHANISM. Curtis S. Crafts, Oak Park, Ill., assignor to Goss Printing Press Company, a Corporation of Illinois. Filed Apr. 22, 1929, Serial No. 357,125, and in Great Britain Sept. 24, 1929. 19 Claims. (Cl. 242 — 58.)

2. A web roll mechanism including in combination a pair of carriers, devices mounted on the carriers for engaging either end of the axial orifice of a web roll, a plurality of supports on which each of the carriers are mounted, and means for raising or lowering the devices.

1,908,237. PRINTING ROLLER. Charles G. Hampson, Jamaica, N. Y. Filed Oct. 3, 1930. Serial No. 486,147. 5 Claims. (Cl. 101 — 376.)

1. In a device, the combination of a support, a brass frame enclosing a printing area of prescribed design, a layer of felt, packed into the frame and having its exposed side flush with the top edge of the brass frame and coacting therewith to provide a printing surface, the edge of the frame forming a sharply defined outline to the printed design.

1,908,466. PRINTING PRESS. John F. Webendorfer, Bronxville, N. Y., assignor to Harris-Seybold-Potter Company, Cleveland, Ohio, a Corporation of Delaware. Filed June 5, 1930. Serial No. 459,324. 5 Claims. (Cl. 101 — 152.)

1. In a rotary web printing-press, a plurality of printing couples, and a plurality of drying drums arranged in the path of the web between the printing couples, some of the printing couples being so grouped in proximity to their respective drying drums in staggered relationship with each other, the drums being located in staggered relationship with their respective printing couples, that the web will pass directly from one printing couple over its respective drum and directly into the next printing couple with the freshly printed side of the web out of contact with the drums.

1,908,487. CONTINUOUS ETCHING MACHINE. Frank T. Powers, Douglaston, N. Y. Filed Jan. 11, 1928. Serial No. 245,953. 16 Claims. (Cl. 41 — 9.)

1. The process for etching photo-mechanical printing plates, which consists in simultaneously subjecting a plurality of the plates being etched successively and repeatedly to the operations of applying a resist to portions of the surface of the plates, heating the surface of the plates to which the resist has been applied, spraying the surface of the plates with an etching fluid, removing the residual etching fluid from the surface of the plates.

1,908,490. MEANS FOR SUPPLYING WEBS. Walter C. Scott, Plainfield, N. J. Filed May 23, 1930. Serial No. 454,907. 22 Claims. (Cl. 242 — 58.)

19. Web supply means including: a support having an active web roll the web of which is threaded into a machine, a support having a replenishing web roll the web of which is to be united to the web of the active roll, means to bring the periphery of the replenishing roll into contact with the running web from the active web roll, means normally ineffective to drive the replenishing roll, and means to render the drive means effective to tend to rotate the replenishing roll substantially at the time the periphery of the replenishing roll is brought into contact with the running web from the active roll.

1,908,497. ELECTROTYPE-PLATE MOUNTING. Wallace S. Warnock, Chicago, Ill. Filed Nov. 19, 1931. Serial No. 576,055. 7 Claims. (Cl. 101 — 385.)

7. The combination with a mounting for electrotype-plates having a block for supporting the plate with vertically disposed apertures in the supporting surface thereof, of a plate holding device comprising an elongated body portion loosely receivable within an aperture and having a laterally directed jaw surface formation extending across its top for engagement with the edge of the plate, the body portion having a longitudinally extended recess in its side opposite the jaw surface side with concentric arcuate guideways in the side walls, a lever element snugly receivable in the recess, having an arcuate guide on each side slidably mounted in the guideways and being engageable with the wall of the aperture for holding the jaw in engagement with the plate, the lever having gear teeth arranged in an arc concentric with the guides and a worm shaft disposed longitudinally in the body portion in meshing engagement with the teeth of the lever for operating it.


# A NOTABLE CONTRIBUTION TO LOWER TYPESETTING COST!

There is no gainsaying the fact that this company has made a dollar go further in the purchase of accurately made parts.

ANOTHER FACTOR in composing room economy has been our rehabilitation service. We have renewed the life of many Linotype parts that previously had been consigned to the scrap heap. These include:

**FIRST ELEVATOR JAWS**
**SECOND ELEVATOR BAR LINKS**
**DELIVERY CHANNEL RAILS**
**ASSEMBLING ELEVATORS**
**DISTRIBUTOR SCREWS**
**SECOND ELEVATOR BARS**
**DISTRIBUTOR BOX BARS**
**MOLDS, ETC.**

A THIRD FACTOR that is reducing replacement cost and increasing the operating efficiency of Linotype machines, is the number of improved parts that we have developed and sponsored.

Among them are the following:

**Improved Linotype Assembler Slide and Clamp**
**Improved Linotype Delivery Slide and Clamp**
**Improved Intertype Assembler Slide and Clamp**
**Improved Assembler Chute Block Rails and Spring**
**Improved Ludwick Thermostat for Electric Pots**
**Improved Second Elevator and Distributor Box Bars**
**Improved Knife Wiper Lever Bracket**
**Knife Wiper Tension Spring (for Linotype and Intertype)**

Executives who follow the present trend of "economy in operation" patronize "Star" parts and repair service. They have learned that they can place confidence in the accuracy of them and depend on the infallibility of our repair and rebuilding service.

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# Ludlow Simplicity

The cardinal feature of the Ludlow is simplicity—both in design and operation. Display composition may be set and cast on the Ludlow in all sizes up to and including 84-point caps without mold or machine changes. A compositor sets matrices and needs to think of nothing else but composition.

Ludlow simplicity makes for efficiency in the composing room. The Ludlow is the ideal tool for the hand compositor.

A broadside describing the features of the new and improved Ludlow will be sent on request. No obligation, of course.

**Ludlow Typograph Co.**

2032 Clybourn Avenue + Chicago, Illinois

SET IN LUDLOW TEMPO HEAVY AND BOLD

## The Accuracy of Electrotyping Reproduction

*(Continued from page 17)*

forms or line etchings are certainly not less than 0.001 in. in width. It may be said therefore, that the present electrolytic reproduction of a relief printing surface is far more accurate than is required. Every bit of detail present on the surface of a lead or wax mold will be duplicated perfectly on the electrotype shell. A close examination of a shell stripped from a lead mold will reveal, especially in the non-printing areas, minute polishing scratches or other marks that were present in the lead mold before suspending it in the solution. Very fine marks present on the copper halftone can also be seen.

The present method of manufacturing phonograph records depends upon the accuracy of electrolytic reproduction, such as is used in electrotyping, to hold the fine irregularities in the wax channels of the original. A stylus vibrating simultaneously with a diaphragm, due to the action of the sound waves, determines (and cuts) the exact depth or width of channel. Distinctions of tone would result from the slightest differences in the character of the cuttings. The accuracy of reproduction must be as nearly perfect as is possible and electrolytic reproduction has been found most suitable.

Some of the types of paper currency printed at the U. S. Bureau of Engraving and Printing are printed from plates which are in effect electrotypes. The mold is made electrolytically as well as the replicas. The plates are used in intaglio. printing and are made from engraved steel originals. The slightest distortion or loss of detail would not permit the application of this process. The Bureau of Engraving and Printing has been successfully using electrolytic plates for over twelve years.

In electrotyping, wax and lead molds require a film coating that could possibly cause a slight alteration of the mold. Wax molds require the application of a thin film of graphite to impart the necessary electrical conductivity. Measurements made of the thickness of this film[5] indicate it to be of the order of 0.00001 in. to 0.000001 in.

This thickness could not cause a noticeable loss of detail. In the case of lead molds, a film of lead chromate is formed on their surface to permit the removal or "stripping" of the deposited shell. This film is certainly even thinner than the graphite film. Both may be disregarded safely as a possible cause of loss of detail.

Where new type or properly prepared originals and patterns are electrotyped, detail is seldom lost. Most of the trouble is due to the use of ink-filled, worn, damaged, or improperly locked-up type and when originals with high shoulders, shallow etching, ragged edges, and under-cutting are furnished. The originals may also be worn or damaged as they come to the foundry. A brief consideration of the mechanism of molding, casting, finishing, and curving will quickly disclose in a given case whether there will be loss of detail and at what portions of the plate it will probably occur. A single example will illustrate the above generalization. Worn types have rounded edges instead of sharp, almost right-angled edges. In the finishing operations of electrotyping, the face of the plates is brought up to a uniform printing plane by means of various methods of applying a general or localized pressure on the back of the plates. Type with rounded edges does not have the structural support of the side walls that new type possesses and as a result, the face of the type will flatten out, causing a bolder appearance to the printed impression.

In conclusion it may be said that the electrolytic method of reproduction is by far the most accurate method of prepar-

[5] J. H. Winkler and W. Blum, Trans. Am. Electrochem. Soc.; 53, 435, (1928).

ing a relief printing surface and that the most minute detail can be fully retained. The cases where electrotypes have not retained all of the detail that is present in the originals, forms, or patterns are very rare and the majority of these instances are due to the faulty condition of the material as it is furnished to the electrotype foundry. Further, it is difficult to imagine any method of casting any metal against any type of mold surface that would retain the degree of detail that is regularly accomplished every day in the manufacture of electrotypes, by the electrodeposition of a metal against the mold surface.

## A. T. F. Organization Notes

J. Frank Eddy has been made sales promotion executive of the American Type Founders Co., with headquarters at Jersey City. Mr. Eddy is well known in printing and advertising circles.

Joseph Warren Phinney has retired from his activities as manager of the Boston Selling House of the American Type Founders Co. Mr. Phinney continues as a member of the board of directors and vice president. Mr. Phinney is succeeded as active manager by John F. Fallon, who held responsible positions under Mr. Phinney from 1896 to 1922 when Mr. Fallon was, at Mr. Phinney's suggestion, promoted to the managership of the Kelly Press Division of the American Type Founders Co. In 1933 Mr. Fallon, again on the advice of Mr. Phinney, assumes management of the company's business in New England.

Frank W. Shober's nine-year record as a salesman at the Cincinnati Branch of the American Type Founders Co., has won for him a promotion as manager of the Kansas City, Missouri, office.

Bernard C. Broyles, known to his intimates at "Tut" Broyles, has been made manager of the Atlanta branch of the American Type Founders Co. He succeeds M. T. LaHatte, who has retired from the company.

## Linotype Jansen

Five sizes are ready in Linotype Janson, the fine book face revived from the famous seventeenth century type cut by Anton Janson, Leipsic punch-cutter and founder some time between 1660 and 1687. These sizes are 8, 10, 11, 12 and 14 point.

A comparison of Linotype Janson with the original face is demonstrated in a folder recently issued by the Mergenthaler

AND here are a few lines of 14 point Linotype Janson with *Italic* and SMALL CAPITALS. How is one to

Linotype Company in which an alphabetical comparative showing is made of each letter. The folder also reproduces the title page and a text page from the Oxford University Press edition of "The Odessy of Homer," designed by Bruce Rogers; one of the "Fifty Books of the Year" for 1933 selected by the American Institute of Graphic Arts. Three books among this year's "Fifty" were set in Linotype Janson—an unusual tribute to the face, it is felt, since only two sizes were ready in the latter months of 1932.

## Canadian Monotype Moves

Monotype Company of Canada, Limited, Toronto, has moved to a new location in order to better serve its customers and the printing and publishing trades in general. The new address is 34 Adelaide St., West, Toronto, Ont.

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## Cleveland Paper Wins Prize

At a convention of the Ohio Circulation Managers' Association held in Columbus, Ohio, early in May, the Cleveland *News* was awarded first prize in an exhibition of newspaper front pages. Eighteen newspapers from all sections of the state, ranging in circulation from 9,930 to 192,745 were entered in the contest.

They were judged by the assembled circulation managers solely from "a home delivery" reader's viewpoint.

The points considered were: Presentation of local and national news, presentation of pictures and special features, typography (from the standpoint of convenience and ease in reading), and all around attractiveness of front page make-up, its readability and power to attract reader interest to the news items presented.

The newspapers were divided into three classifications—those having up to 10,000 circulation, those having from 10,000 to 50,000 circulation and those having more than 50,000 circulation. In the latter division, in addition to The *News*, were the Cincinnati *Enquirer*, Cincinnati *Post*, Cleveland *Press*, Columbus *Press*, Columbus *Citizen*, Columbus *Dispatch*, Columbus *Ohio State Journal*, Dayton *Daily News* and Toledo *Blade*.

The *News* was selected as first prize winner by an almost unanimous vote. Second prize went to the Dayton *Daily News* and third prize to the Columbus *Citizen*.

In the division of from 10,000 to 50,000 circulation, the Canton *Repository* carried off first honors. The Mansfield *News-Journal* was second and the Youngstown *Telegram* third. In the third division the Piqua *Call* was given first prize, the Marietta *Times* second and the Ashtabula *Star-Beacon* third.

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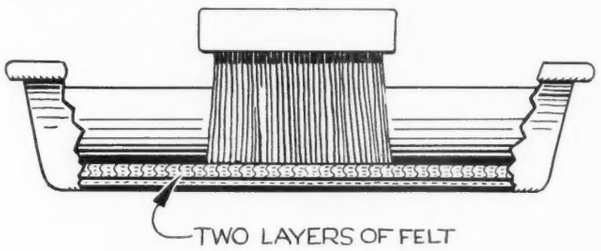
## Efficient Method for Using Type Washes

Many composing room executives have not adopted mineral spirit or petroleum distillate type washes, partly on account of the initial cost of the wash per gallon or because of its incorrect application during a trial period. Its cost when compared to ordinary gasoline makes it use seem prohibitive. This is true if it is handled in the same wasteful manner as the older type ink solvent.




The new type washes possess the advantage of not being nearly so volatile as ordinary gasoline, which lessens the fire hazard considerably.

To provide a means of handling mineral spirits economically and efficiently secure an ordinary white enamel photographer's developing tray (8 in. by 10 in. by ¾ in. deep) and cover the bottom with two layers of stereotyper's molding felt or similar material. Pour in only enough liquid to saturate the felt. The two pieces of felt will moisten the brush sufficiently to take care of a great number of galleys over a several-hour period. After using the brush, wipe off the type or slugs with a clean wiping cloth.

While not in use, let the brush rest upon the felt, bristles down.

## Photo-Electric Stop for Presses

*(Continued from page 23)*

A lever attaches to, but acts independently of, the hand tension adjustment. A pull on this lever puts the maximum tension on the roll and has the same effect as screwing up the tension screw by hand. The pull is transmitted to the levers by steel cables one to each roll. A master pulling device located remote from the press supplies a pull to any number of brakes.

When a break in the paper occurs, or when the stop button is pressed, the electrical impulse causes a heavy weight to drop. All of the pulling cables are attached to this weight. The pull is equalized on all of the cables by an arrangement of springs. At the moment the weight drops, a small motor starts and pulls up the weight again releasing the brakes about the same time the press comes to rest. The brakes may be released at any time before or after the press comes to rest by an adjustment in the main braking unit. Since the braking force required is less on a small roll than on a large one, an adjustment is furnished with each individual lever. This varies the pull on each roll to suit the diameter. This adjustment is changed only two or three times during the running off of a roll of paper.

The photo-electric stop is adaptable without change to any type of press and any number of watching units may be used. The bracket which holds the watching unit to the press frame will vary according to the construction of the press, but since this consists only of a pair of light strap-iron braces, fastened to the box at one end left long for bending into a hook to go over the nearest brace, this offers no difficulty in installation.

The only expense involved outside of equipment is the running of wires to the various units.

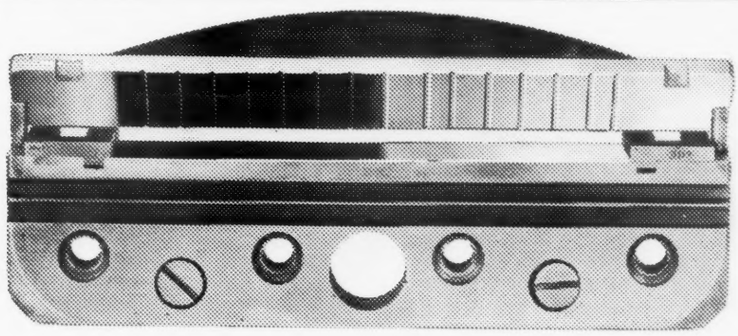
## Books Received

IT HAS been our pleasure to read "Displacement of Men by Machines," by Elizabeth Faulkner Baker, assistant professor of economics, Barnard College, Columbia University. The material presented in the book is the result of an investigation of a selected list of pressrooms in the commercial branch of the industry. It is said that this is the first completed attempt to examine changing technology and labor displacement with the subsequent history of the men so displaced.

This is a book which should be in the posession of every printing plant executive and mechanical executive since the subject matter discussed has an intimate bearing upon their professional decisions and activities.

While it is not within our province to discuss labor matters, we would, however, like to remark that the record of proceedings with respect to contractual relations on account of the ever encroach mechanisms which are gradually supplanting one of the printing craft unions is remarkably well set forth. Students of technology will be interested in reading the details as to how an employer group and the complementary employe group are attempting to handle an irresistible mechanistic development.

Some of the conclusions which may be drawn from the book are that: The mechanical executive will find in its pages invaluable information respecting the handling of personnel, because it is a study in human nature as it applies to the reactions of the worker in relation to his means of livelihood. The younger man can accommodate his thinking processes more readily to new mechanisms, but the older man who prides himself upon his "skill" becomes lost in the shuffle upon the introduction of automatic machinery and perhaps in groping for subsistence adopts some simple means of livelihood requiring minimum mental effort. In the future the

*The right-hand section of this mold shows the perfect results obtained with Dixon's Mold Polish.*

DIXON'S Mold Polish quickly cleans and polishes the mold without the slightest injury and leaves a mirror-like lubricated surface required in easy ejection.

Realize how much of a loss in production and what an annoyance to the operator each stop of the machine means. You know that if the machine strains in an effort to eject "stuck" slugs, it wears out the ejecting parts rapidly, and replacement should be made sooner than should be necessary.

Dixon's Mold Polish removes the cause of porous, hollow, bad-faced slugs by keeping the mouth-piece clean and air vents open, eliminating the back-squirts caused by poor lock-up.

If this polish doesn't clean, polish and lubricate the molds better, easier and safer than any you have used, your money will be returned.

DIXON'S MOLD POLISH — *$1.00 per can. Six cans $5.00*

SPECIAL GRAPHITE — *$1.25 per lb. can. Five cans $6.00*

**DIXON MOLD POLISH CO.**

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AGENTS

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IN the stress of the times don't forget to keep a watchful eye on your type metal. Keep up a regular periodical analysis of your type metal. Remember it costs you nothing to have Imperial analyze your metal and it may save you considerable money.

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craftsman will be required to exercise his mental processes in order to understand the manipulation of machines rather than the development of the skill required for some form of hand labor. Is not this alone sufficient urge to raise the standard of any craft? Society cannot go on forever ignoring the necessity of an organized handling of the sociological and economic problems brought about by the introduction of labor-eliminating mechanisms.

Technocracy should not be blamed as the sole cause of the present general plight of the displaced worker. That a good part of the blame may attach to organized society for this maladjustment is perfectly clear to many. It is suggested in the book that despite the social implications of maladjustment and strife brought about by the varying viewpoints of the employer and the worker,

> Organized society has failed to coerce or consciously to assist or even advise the protagonists to beat their swords into ploughshares. The resulting unemployment is sociological and economic as well as technological. It might even be called *technocultural* unemployment.

Dr. Baker does not offer a remedy but does point out, what to our notion, is a wonderful opportunity to serve mankind through adjustment of a condition which has been woefully ignored.

Most of us have become accustomed to think of each technological advance as a part of the program of progress in our country. We all admire the new device, either because we are the new owner who has paid for it with pleasant anticipation of increased revenue or because we may be put in charge of its productive possibilities. Dr. Baker's warning to industry is as follows:

> "If this investigation of a specific branch of the industry teaches any lesson it is this: Until we devise a method of absorbing displaced workers in self-respecting occupations without serious or protracted periods of unemployment, we cannot speak of social progress and the substitution of men by machines in the same breath. As productivity increases it is becoming more glaringly evident that cultural services are as badly needed as material goods, and that judgment and foresight, informed by the mistakes and omissions of the past, are imperatively required in solving the problems presented by each new technical advance.

DISPLACEMENT OF MEN BY MACHINES, *Effects of Technological Change in Commercial Printing*, Elizabeth Faulkner Baker. Columbia University Press, 2960 Broadway, New York, New York. $3.50 per copy.

## I. T. C. A. Mid-Year Meeting

The mid-year meeting of the International Trade Composition Association will be held in Toronto, Canada, Friday and Saturday, June 16 and 17. There will be no "set" speeches and no special speakers. Every minute will be given over to a discussion of the problem under consideration.

FRIDAY, 10 A. M.

*Address of Welcome*—James R. Booth, President, Toronto Trade Composition Association.
*Response*—Edward W. Libby, President, I. T. C. A.
*Report of Treasurer*—John T. Fuhrman, Jr.
*Report of Secretary*—John Deviny.
*Report of Membership Committee*—Chairman, Howard O. Bullard.
*Report of Advertising Committee*—Chairman, Arthur Overbay.
*Report of Administrative Committee*—Chairman, Howard O. Bullard.
*Report of Commissioner Fred W. Hoch.*

FRIDAY, 2:00 P. M.

1—Do our Trade Customs and Practices meet present conditions regarding sales policies, proof reading (allowances, italics, small caps, double-price matter, etc.)?

2—On what basis should credit be extended? Are credit lists feasible? Cash and carry begets credit, statements, personal promises, etc.

3—How can we regain lost ground on metal? Can we sell it outright at the market price? Should we include it in our composition sales price? Memorandum limitations as to return time, allowances, etc.

4—Can we standardize estimating on an acceptable basis? Hand composition and makeup, machine composition and make-up, unit method, line method, square inch method, etc.

5—New ways to serve old clients. New methods of graphic arts reproduction which offset the typesetting industry. New lines of supply. New ways to deliver our products and proofs.

## Rubber Roller Upkeep Economies

*(Continued from page 24)*

EQUIPMENT SUITABLE FOR GRINDING

For handling these two operations, an engine lathe is considered the most practical machine adaptable to the printing shop, and is a machine with which the mechanics are familiar because it is used for other maintenance work. The size of lathe generally agreed upon by most authorities is 18 in. swing, with 14 ft. bed for newspaper plants. Up to this point most mechanics agree, then come varying viewpoints concerning how the job of grinding should be done.

ROLLERS SHOULD BE GROUND ON OWN JOURNALS

To the engineer, it is axiomatic that the machining or grinding of any moving mechanical part must be done concentric with its axis. This simply means that the surface of a rubber roller, in order to be smooth and accurate after grinding, must be ground concentric to its own journals, or shaft ends. To do this it is best to mount the roller in the lathe in special center rests, called journal support fixtures, which support the roller so that it revolves on its own journals. Then, when ground, the refinished roller will perfectly align as it is supposed to do when new. A moment's reflection will demonstrate the logic in this.

Other methods of mounting for grinding are used and sometimes will do the trick. For example, some newspapers grind their rollers "between centers" in the lathe. Objection to this method is two-fold. Unless the center holes are perfect and the shafts accurate, an eccentric job will result. Secondly, the polishing speed of the rollers is so high that there is great danger of burning out the centers.

*Concluded in July Issue*


# • Sharp Saws Cut Production Costs

Saws cut faster, truer and stay sharp longer when every tooth is filed absolutely alike. Saws also last longer. Only one method of filing gives such perfect results, the Foley Automatic Saw Filer.

This accurate machine files and joints every tooth to a far greater uniformity than even the most expert hand filing. It saves much saw filing time and expense.

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One machine files all kinds of saws — band saws, hand saws and cross-cut circular saws, 3" to 24". Also files your metal-cutting circular saws.

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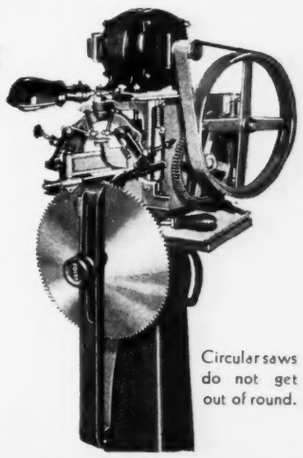
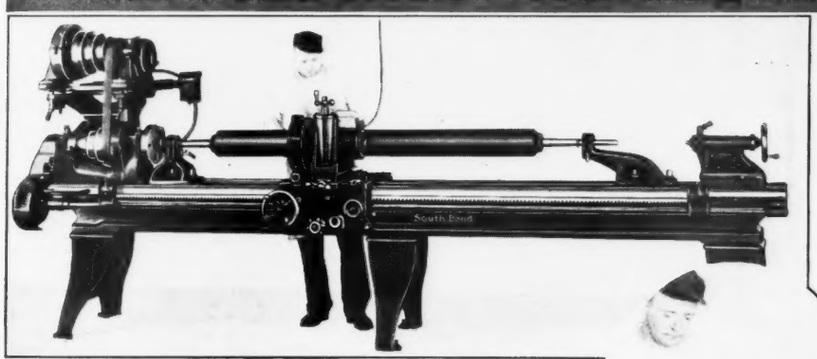
Washington (D. C.) Star
and many other Newspapers and commercial printing plants.



Circular saws do not get out of round.



# South Bend Roller Grinding and Polishing Lathe



*Grinding a Rubber Roller on the 18" x 14' Silent Motor Drive Lathe. Price Complete, Less Polishing Unit.....$1268.00*

*for refinishing*

**Rubber Form Rollers**
**Rubber Vibrator Rollers**
**Rubber Feeder Rollers**
**Offset Press Rollers**
**General Repair and Maintenance Work**

**The South Bend Method of grinding and polishing rollers is practical, accurate and fast. Both operations, grinding and polishing, are done on a general purpose back geared screw-cutting lathe which can also be used for general machining work. The time of refinishing each roller is from 2 to 2½ hours.**

**PRICES OF POPULAR SIZE LATHES**

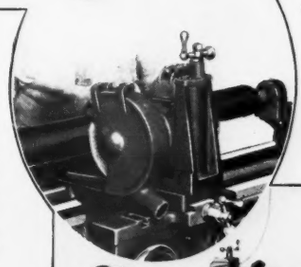
| | Countershaft Drive | Silent Motor Drive |
|---|---|---|
| 18"x14' South Bend Roller Grinding and Polishing Lathe complete less Polishing Unit.. | $1094.00 | $1268.00 |
| Polishing Unit Complete with 1 H.P., 3-phase, 60-cycle motor..... | 125.00 | 125.00 |

## A Few Recent Purchasers

**Hundreds of newspapers and commercial printing plants are using South Bend Lathes and the following are a few of the recent purchasers of South Bend Roller Grinding Equipment:**

**Buffalo Courier Express, of Buffalo, N. Y.**
**Buffalo Evening News, of Buffalo, N. Y.**
**Florida Times Union, of Jacksonville, Fla.**
**The Georgian, of Atlanta, Ga.**
**Miami Herald, of Miami, Fla.**

*At the right is a close up showing the grinding unit with which two cuts are usually taken before polishing is done, as shown below.*



## Write for Descriptive Bulletin

**Write for Bulletin No. 37 which contains complete information and prices on Roller Grinding and Polishing Lathes of all sizes for finishing large and small rubber rollers in the newspaper plant and commerical printing plant. Also shows methods of mounting roller, how to set grinding wheel, how to polish the roller, etc., fully illustrated. Copy will be mailed postpaid, on request.**

## South Bend Lathe Works

**573 East Madison Street, South Bend, Indiana, U. S. A.**

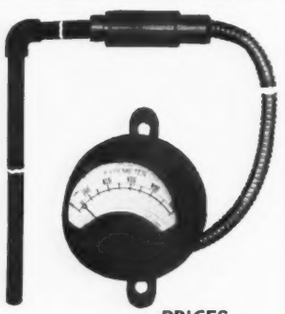
*Polishing a Rubber Roller on the same lathe after grinding. Price of Polishing Unit.....$125.00*

# Why Burn Your Metal?

Why waste fuel?

Why spoil plates?

Why risk expensive delays?



## Use an "Alnor" Pyrometer

PRICES
$30 to $42
Depending upon size

Metal temperature is vitally important to every newspaper and printing plant.

Why guess when you can equip each stereotype, electrotype or remelting furnace with an "Alnor" Pyrometer for as low as $30.00?

The "Alnor" Pyrometer is accurate, rugged and durable. It can be installed by any shop man in a few minutes.

It pays for itself many times over in the saving of metal, time and fuel to say nothing of improving your printing through better plates.

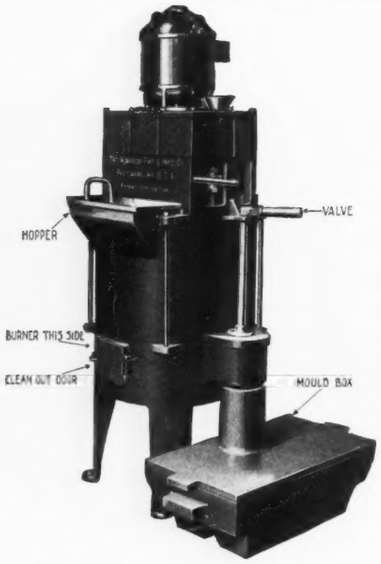
*Write for descriptive bulletin and list of users.*

**Illinois Testing Laboratories, Inc.**
139 W. Austin Avenue Chicago, Illinois



# THE MONARCH METAL RENOVATOR

is used in stereotyping departments for the direct reclaiming of new metal from dross.




It occupies but two and one-half feet of space and is placed preferably near the larger stereotype pots from which the dross is skimmed. The dross can be immediately thrown into the Renovator, thus eliminating storage of same in cans and the packing for shipment to the smelter.

The Monarch Metal Renovator will reclaim from 65 to 75% new metal from your dross, thereby effecting a substantial saving and maintaining the quality of your metal.

*Write for Catalog P.E.E.*

**The Monarch Engineering & Mfg. Co.**
701-702 American Bldg. Baltimore, Md., U. S. A.
Works, Curtis Bay, Md.


## Eliminating Chilled Spots on Giant Caster Type

*By* Geo. L. Morrison*

Assuming all operating conditions of the Giant Caster are correct, there are several matters in regard to the quality of the product that are up to the operator. It depends upon his understanding of the positioning of the mold in relation to the nozzle and the size of the cast being made. The matter that causes a variable in the casting of the product, is the design of the matrix. A letter of one design will cast perfectly as to face, but the same letter of another design will cause considerable difficulty in obtaining a perfect face.

The matrix as presented to the casting mechanism consists of varying hills and valleys. The metal as it is pumped in strikes these hills and valleys and the flowing stream of metal is broken up into eddies and whirlpools, and if these cross currents solidify before they have completely filled the matrix a bad frost occurs in some part of the design. The same defect will appear at the same place in all casts made of this matrix.

When these occur the operator cannot follow the set operating rules and must use his ingenuity to overcome the defects.

Following are some hints that will help in these cases:

The fundamental idea is to change the position of the matrix in regard to the nozzle. In other words if the standard method produces a chilled spot in one part of the design, by shifting the mold in relation to the nozzle a different stream of metal is encountered which is pumped against the matrix at a different angle, and the chilled spot disappears.

When you have trouble with a character, put it to one side until you change packing pieces, and try it again on the next change of packing pieces, either smaller or larger. This often overcomes the difficulty. When the best combination of packing pieces is determined put a slip in the matrix box giving this data, and there will be no lost time when you make this character again.

On the largest sizes this cannot be done so easily. It is then a good idea to make some extra packing pieces out of two point brass rule. By using these packing pieces with the standard packing pieces in different combinations you can place the mold much closer to positions wanted. In the largest sizes it is sometimes necessary to vary the left closure by permitting it to open wider than standard, thus permitting the metal to flow to the left end of the mold more readily. It must be kept in mind that this closure cannot be opened up so that it will not completely cover the nozzle seat, or a serious squirt will occur. The No. 3 packing piece can be cut through where the left closure abuts it, permitting the closure to come back even with the core extensions. This position can be used on the largest characters where difficulty occurs in obtaining

*Superintendent, Thermod Monsen & Son, Inc., Chicago, Ill.

a good face. By turning this packing piece with the notch down, it can be used in the regular way.

In cleaning the mold base, it is not always put back in exactly the same relation to the nozzle, and for this reason the marking on the base plate is not an infallible guide for the setting of the right closure opening. In order to check the closure setting with the pump locked out, take off the matrix carrier and swing the bridge mechanism over toward the front of the machine, so you can see down into the mold cavity. Turn the machine over until the closure is opened to the limit of its stroke. Then adjust the closure opening while looking down into the mold opening. This will enable you to adjust the closure so that it will open up exactly flush with the cross block, when used with packing pieces which permit this flush adjustment. This adjustment is important in obtaining a good face, because if it is not correct, it will start an eddy in the stream of metal before the metal strikes the matrix, and the object is to have the metal flow as smoothly as possible across the face of the matrix.

When using any special packing pieces, it is well to check the right closure adjustment as above described, as there would be no object in getting a smooth flow of metal at one side of the mold if you create an obstruction at the other, which is what occurs if the closure is opening so wide it is under the cross block.

## Monotype's Annual Report

The annual report of operations by Harvey D. Best, president of Lanston Monotype Machine Company, Philadelphia, Pa., for the fiscal year ended February 28, 1933, was presented to the stockholders at their annual meeting in Alexandria, Va., May 4.

Net operating profit after all taxes and before depreciation write-offs is $69,743.48. After depreciation charges on buildings, plant machinery and for amortization of patents, the report of the treasurer shows net loss for the year of $79,069.23.

Dividends amounting to $310,620.50 were paid for the year. Cash on hand at the end of the year was $1,272,423.36; bills receivable, $1,228,107.29; accounts receivable, $201,529.93; Canadian Government Bonds, $106,331.75; inventory, $1,450,314.34—total current assets, $4,262,818.40. There are no bills or accounts payable and no liabilities other than outstanding common stock with par value of $5,644,100.00.

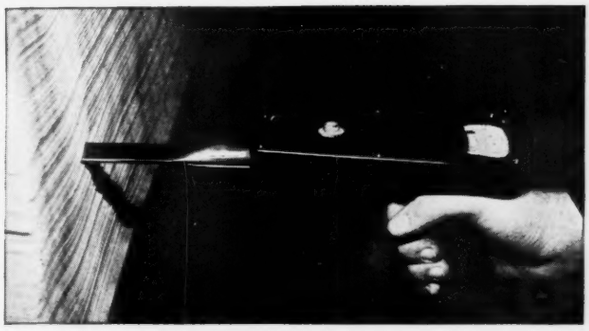
The company has paid stockholders in dividends a total of $8,250,000.00 since 1916.

In September, 1932, the company acquired all of the assets of the Directoplate Corporation, manufacturers of photomechanical equipment and in December secured exclusive manufacturing and selling licenses under all patents of Wm. C. Huebner and Huebner-Bleistein Patents Corporation, to enable the Monotype Company to furnish everything required by the printer in making printing plates for use with offset presses.


### FOR SALE

Two Cottrell rotary magazine presses. One with two folders for 64-page magazine size and for 8½" x 11½" page. The other press takes 16-page text, covers and staples, 2-up, page size 8½" x 11½". These presses now running and in good condition and being replaced by presses of greater speed and page capacity. Address Printing Equipment Engineer, CS—1.





**IT will save you MONEY**

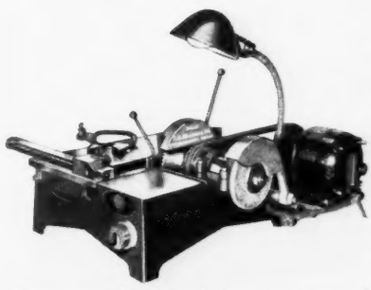
Storing paper after it is cured costs money. It needlessly uses valuable floor space and often keeps a press waiting. Running before the paper is seasoned is even more costly because of spoiled work and poor register. The Cambridge Printers Moisture Indicator tells you at a glance whether or not the moisture content of the paper and the room air are in balance. You KNOW when you can run . . . safely.

CAMBRIDGE
INSTRUMENT CO INC
3732 Grand Central Terminal
NEW YORK CITY

Send for complete details of this instrument. It will save you money in avoiding spoiled paper and enable you to be sure of better register.



**Why Your Plant Cannot Afford To Be Without Cost Cutter Saws**



Cost Cutter Saws speed up your production and increase accuracy. They cut to points or fractions of points, leads, slugs, rule, type, borders, ornaments, stereotypes, electrotypes and other printing office materials of lead, brass, copper, zinc and wood.

Above is an illustration of Model "A" all-purpose saw trimmer for small plants, ad-alleys, or as an auxiliary. It saws, trims at a single operation, miters, outside mortises, and grinds. Model "B", the larger model, is even more efficient.

A postcard will bring you information telling how easy it is to own either a Model "A" or a Model "B" and how they save money in your plant.

C. B. NELSON & COMPANY
727 SOUTH DEARBORN ST. CHICAGO, ILLINOIS

# All Square *and* Aligned

in the Hacker Make-Up Gauge by means of the ruled transparency. This stiff sheet of transparent material is ruled in pica squares and mounted on cone points at one end where it is instantly removable and replaceable.

No angle lines. No bowed rules. No mis-alignment. This device checks all internal aligning and squaring and positioning. It shows up crooked cuts. It positions all units right and eliminates shifting on stone or press.

Send for catalog of this amazing new tool, the Hacker Make-Up Gauge, to

**HACKER MANUFACTURING CO.**
320 SOUTH HONORE STREET CHICAGO

# Columbian Inks

*For fine printing of*

Newspapers
Magazines
Books
Box Board
Paper Bags
Cloth Bags

And other mediums

**BLACKS AND COLORS**

**THE L. MARTIN COMPANY**
*Arthur S. Thompson, Manager*
45 EAST 42ND STREET NEW YORK CITY

## Catalogs, Books and Bulletins

Readers of PRINTING EQUIPMENT ENGINEER who are interested in securing any of the catalogs, books or bulletins listed below can do so by checking the literature desired. Mark carefully only that literature which you wish to receive. Fill out the coupon and send it to us. The literature will be forwarded without cost except where noted.

*Increased Production with Foley Automatic Saw Filer*—Folder illustrating and describing various models of machines suitable for filing printers' saws of all kinds.

*Electric-Heated Full-Automatic Steam Boilers*—Booklet, 8⅝ x 11¼ in., illustrating and describing a line of small steam boilers for use during the seasonal periods when plant boilers are shut down.

*Ink Secrets*—Booklet, 64 pp. and cover, 4¼ in. by 6½ in., containing information for the pressman.

*Folder*—Describing printing press composition rollers which resists heat to 106 deg. F.

Printing Equipment Engineer,
1370 Ontario St., Cleveland, Ohio.

Gentlemen: Please send the literature checked above without obligation.

Name of Company _____

Attention of _____

Position _____ Dept. _____

Street Address _____

City _____ State _____

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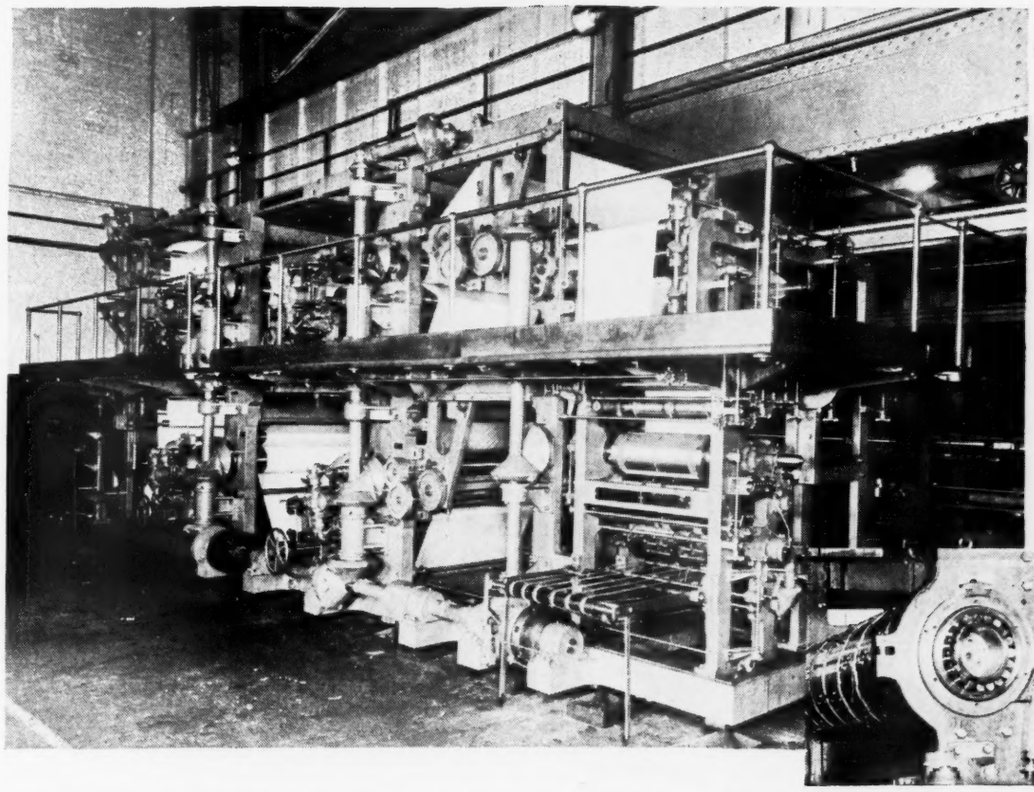
# 500 SKF'S ON HOE MAGAZINE PRESSES FOR SPEED



**R. HOE & CO. Inc.**

*Close-up of SKF on cylinder. Precision is the only thing that counts on this application.*

## WHERE PERFORMANCE TAKES PREFERENCE OVER PRICE

OVER 500 SKF Ball and Roller Bearings are on these two new 64-page Hoe Super-Production Rotary Web-Perfecting Magazine Presses, installed for R. R. Donnelley & Sons Company, Chicago. "The fastest running magazine presses ever built," says Hoe of this job... and that certainly calls for the utmost precision, quality, smoothness and reliability of anti-friction bearings. SKF Bearings more than meet every one of these exacting requirements.

"One of the important mechanical features of these machines," says Hoe, "is solid steel type and impression cylinders mounted on SKF Self-Aligning Spherical Roller Bearings." SKF's go a long way toward maintaining the high efficiency of these units and also the four presses of the Jersey City Printing Company, printers of telephone directories.

Over 500 SKF's will be used on the two new Hoe presses now being built for the Christian Science Publishing Society of Boston. SKF's are rugged to meet the demands of continuous duty... show no wear, need no adjustments, and insure the constant uniformity so essential to quality printing... and their quality shows throughout a long life.

*You may buy a bearing as a bargain but try and get a bargain out of using it. for nothing is apt to cost so much as a bearing that cost so little.*

3040

SKF INDUSTRIES, INC. 40 EAST 34th STREET, NEW YORK, N. Y.

# SKF

**Ball and Roller Bearings**

FOR THE ECONOMICAL COMPOSITION OF SUCH POPULAR TYPE FAMILIES AS CAIRO, VOGUE, GARAMOND, BODONI, CLOISTER, ETC.

# INTERTYPE Wide Tooth Matrices Reduce the Number of Machine Stops Because They Hang Straight and Drop Straight.... These Modern Matrices Last Long Because Their Wide Teeth Have Greater Wearing Surface at the Point of Great Wear.

INTERTYPE WIDE TOOTH MATRICES EFFECT ECONOMICAL PRODUCTION ON OTHER LINE COMPOSING MACHINES AS READILY AS THEY DO ON INTERTYPES

INTERTYPE CORPORATION • 360 FURMAN ST. • BROOKLYN, N. Y.
Chicago, 130 North Franklin Street; New Orleans, 1007 Camp Street; San Francisco, 152 Fremont Street; Los Angeles, 1220 South Maple Avenue; Boston, 80 Federal Street; Canada, Toronto Type Foundry Co. Ltd., Toronto. Distributors Throughout the World

Set on the Intertype in Bodoni Bold and Bodoni Modern